

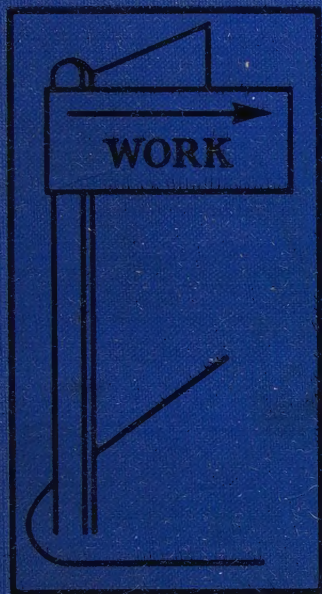
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# OUR WORLD OF WORK

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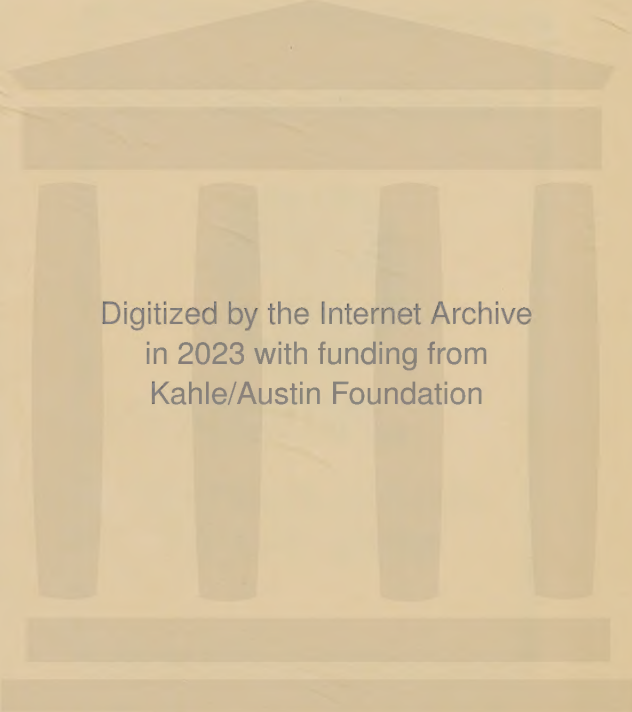
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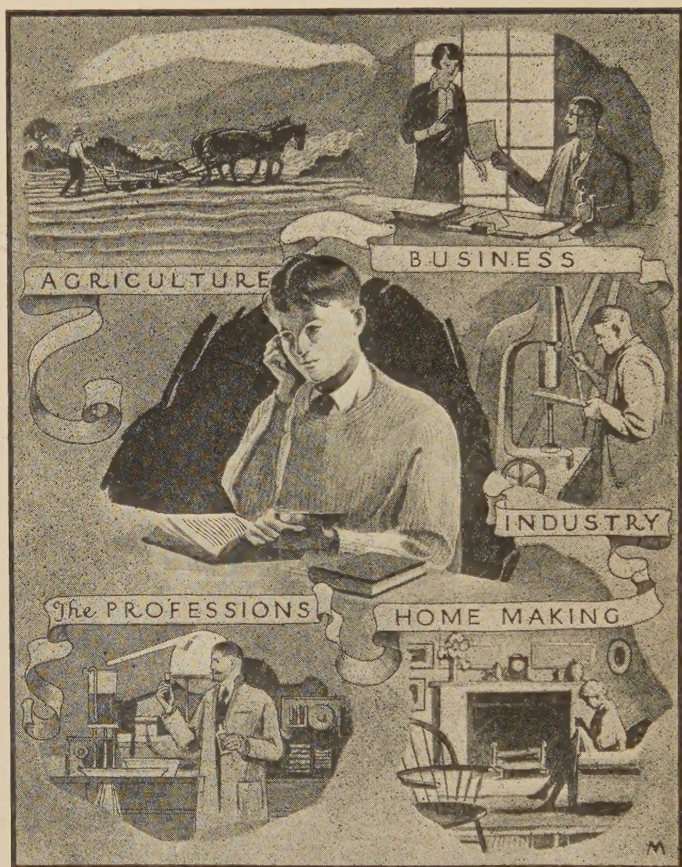
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GUIDEPOSTS  
FOR  
JUNIOR HIGH SCHOOL YEARS



A VISION OF THE WORLD OF WORK

Guideposts for Junior High School Years

EDITED BY JAMES M. GLASS

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# OUR WORLD OF WORK

BY

HAROLD LYMAN HOLBROOK

SPECIALIST IN GUIDANCE, STATE DEPARTMENT  
OF PUBLIC INSTRUCTION, PENNSYLVANIA

AND

A. LAURA MCGREGOR

DEPARTMENT OF EDUCATION  
ROCHESTER, NEW YORK



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Norwood Press  
J. S. Cushing Co. — Berwick & Smith Co.  
Norwood, Mass., U.S.A.



## PREFACE

THE keynote of this text is found in the following paragraph from *Cardinal Principles of Secondary Education*: "Education in a democracy, both within and without the school, should develop in each individual the knowledge, ideals, interests, habits, and powers whereby he will find his place and use that place to shape both himself and society to ever nobler ends."

In *Our World of Work*, the teacher will not find many of the usual statistics and wage tables. They are omitted not only because they tend quickly to become obsolete, but also because they deaden interest and distract the pupil's attention from the vastly more attractive and important factors of self-discovery and social adaptation. The text is filled with pictorial illustration and other supplementary aids to the *thinking-through* process which the pupil must follow to make his study effective.

At frequent and regular intervals the pupil is encouraged to analyze the organization and treatment of the various topics so that he may acquire a proper method for his independent studies of occupational opportunities. *Guideposts*, a *Scrapbook*, *Thinking-Through* questions, choice bibliographies, and suggested *Field Studies* accompany each chapter. Thus the inspiration and counsel of the teacher is supplemented in practical fashion by the course which the text establishes for the pupil. "The wise counselor for any school level will interpret his obligation as that of assisting pupils in extending their own powers of self-guidance rather than that of arbitrarily dictating to

or choosing for them" (Bulletin 19 of the National Association of Secondary School Principals, *Guidance in Secondary Schools*).

An outstanding endeavor of the authors has been to confine the discussion to the life situations of the pupil. Wide experience, helpful collaboration of specialists in the guidance field, tested methods, and expert vocabulary study have contributed incalculably to this endeavor. Similar factors led to the decision against making the text a detailed conspectus of occupations.

1. *Our World of Work* is designed to fill the need for a one-period-a-week introduction to the five or six thousand occupations in which people of this country are engaged. The wealth of chapter-discussion exercises and references to outside readings and investigation makes a second weekly period entirely profitable.

2. The world of work is here seen and understood in a new light; by the unique and easily understood plan of five fields and three training levels; by the simple unfolding of the few typical vocations presented; by the many pictures illustrating the text; by the abundance of concrete references to the pupil's own experience; and by the use of the community as a laboratory.

3. Home making takes its place as one of the five major fields.

4. The training-level idea aids materially in seeing the world of work in terms of school preparation and vocational training.

5. Personal application, which is the essence of a course having vocational guidance as a primary objective, is made throughout.

H. L. H.

A. L. McG.

# CONTENTS

## INTRODUCTION

CHAPTER	PAGE
I. BEGINNINGS IN THE WORLD OF WORK . . . . .	3
II. VOCATIONAL TRAINING LEVELS . . . . .	28
III. THE WORLD OF WORK IN SCHOOL . . . . .	52
PART I—THE FIELD OF AGRICULTURE	
IV. PLANT AND ANIMAL HUSBANDRY . . . . .	75
V. THE WORKERS IN THE FIELD OF AGRICULTURE . . . . .	101
PART II—THE FIELD OF BUSINESS	
VI. THE WORK OF BUSINESS . . . . .	117
VII. THE OFFICE . . . . .	143
PART III—THE FIELD OF INDUSTRY	
VIII. MINING AND MANUFACTURING . . . . .	161
IX. BUILDING AND PUBLIC UTILITIES . . . . .	193
PART IV—THE FIELD OF HOME MAKING	
X. FAMILY HOME MAKING . . . . .	225
XI. INSTITUTIONAL HOME MAKING . . . . .	248
PART V—THE FIELD OF THE PROFESSIONS (And Allied Services)	
XII. THE ARTS . . . . .	269
XIII. THE PERSONAL PROFESSIONS . . . . .	287
XIV. THE POLITICAL PROFESSIONS . . . . .	309
APPENDIX . . . . .	331
INDEX . . . . .	1





## ILLUSTRATIONS

A Vision of the World of Work . . . . .	<i>Frontispiece</i>
	<small>PAGE</small>
Long Ago . . . . .	4
A Modern Factory . . . . .	5
The Work of Science . . . . .	6
Studying Vocations for Women . . . . .	7
Studying Vocations for Men . . . . .	8
At Work in the Bureau of the Census . . . . .	9
The Vocation of Acting . . . . .	10
The Children's Ward in a Modern Hospital . . . . .	14
At Home with Walter Damrosch . . . . .	14
The Field of Agriculture . . . . .	15
Safeguarding the Public from Impure Foods . . . . .	16
Vocations in Aviation — (1) . . . . .	19
Vocations in Aviation — (2) . . . . .	20
Your Guidepost . . . . .	22
A Good Start in Vocational Study . . . . .	26
George H. Jones . . . . .	29
Subway Construction in New York City . . . . .	30
Winding Transformer Coils . . . . .	31
High-Speed Drilling Operation . . . . .	32
Skilled Workers in an Ancient Craft — (1) . . . . .	33
Skilled Workers in an Ancient Craft — (2) . . . . .	34
A Surgeon at Work . . . . .	36
Education, the Stairway . . . . .	37
Senior Medical Students in an Orthopedic Clinic . . . . .	39
Learning by Doing . . . . .	39
Helen Wills . . . . .	41
Future Chemists? . . . . .	43
Chemists at Work . . . . .	43
A Garment Worker and Her Family . . . . .	44
A Night Class in Bricklaying . . . . .	45
Thinking Through by Means of Pictures — (1) . . . . .	49

	PAGE
Thinking Through by Means of Pictures — (2)	50
Two Types of Vocational Education	55
A Machinist at Work	59
A Trip of Observation	60
Moving Pictures in the Classroom	62
The Art of Printing — (1)	63
The Art of Printing — (2)	64
Paper Manufacturing — (1)	67
Paper Manufacturing — (2)	68
Trying Out the World of Work	72
America the Beautiful	74
A Vermont Haying Scene	77
Gathering Tomatoes	78
A Freesia Farm in San Fernando, California	79
A Prune Farm in Santa Clara, California	80
Forestry and Lumbering — (1)	81
Forestry and Lumbering — (2)	82
Dairying	85
Cattle Farming	86
Shearing Sheep	88
Poultry Farming	89
Blue Foxes at Lunch	90
Animal Hospital Service	91
Fishing Occupations — (1)	93
Fishing Occupations — (2)	94
A Forest Ranger	97
Luther Burbank	100
A General Farm	101
The Primitive Plow	102
Plowing Fifty Years Ago and Now	103
A Caterpillar Ditcher	105
At Pasture	106
Centers of Commerce	116
The Purchase of Manhattan Island	118
In the United States Assay Office, New York City	119
Two Training Levels of Selling	122
An Aërial Advertiser	123
A Jewelry Repair Shop	126
In the Shipping Room	127
A Provisions Salesman	130

	PAGE
Alice Foote MacDougall . . . . .	133
Photographers in the Making . . . . .	135
The Illustrative Work of Advertising . . . . .	137
Office Workers at Work . . . . .	141
John Wanamaker . . . . .	142
A Business Office . . . . .	145
Stenographers at Work . . . . .	148
A Bookkeeper of a Generation Ago . . . . .	151
Owen D. Young . . . . .	153
Mining and Manufacturing . . . . .	160
George Westinghouse . . . . .	162
Progress in the Textile Industry . . . . .	165
The Four Divisions of Industry — (1) . . . . .	167
The Four Divisions of Industry — (2) . . . . .	168
At the Mines . . . . .	170
Granite Cutting . . . . .	171
An Oil Field . . . . .	172
Handling the Raw Materials of the Mines . . . . .	173
Testing Helium . . . . .	175
The First Public Television Test . . . . .	177
Multiple Drilling Operation . . . . .	178
Sheet-Metal Spinning . . . . .	179
Clay Products . . . . .	180
Bronze Workers . . . . .	181
A Machine Shop . . . . .	181
Electricians . . . . .	184
Skilled Workers in the Garment Industry . . . . .	185
Henry Ford . . . . .	187
“Thus at the Flaming Forge of Life” . . . . .	190
Progress in the Building Industry . . . . .	192
Modern Means of Communication . . . . .	195
A Building Trade . . . . .	196
Builders at Work . . . . .	198
George Washington Goethals . . . . .	199
The Power of Steam . . . . .	200
A Masterpiece of American Architecture . . . . .	201
The Work of the Construction Engineer — (1) . . . . .	203
The Work of the Construction Engineer — (2) . . . . .	204
The Telephone Industry — (1) . . . . .	207
The Telephone Industry — (2) . . . . .	208

	PAGE
Railroading — (1) . . . . .	211
Railroading — (2) . . . . .	212
The Progress of Transportation — (1) . . . . .	215
The Progress of Transportation — (2) . . . . .	216
Monarchs of the Air . . . . .	218
Heat, Light, and Power . . . . .	220
"Home-Keeping Hearts Are Happiest" . . . . .	224
Institutional Home Making . . . . .	227
Progress in Home Making . . . . .	229
Boys and Home Making . . . . .	231
Girls and Home Making . . . . .	234
Mrs. Theodore Roosevelt . . . . .	237
Education in Home Making . . . . .	239
Art in Home Furnishing . . . . .	241
"Come In" . . . . .	242
"Doughnuts — um-m-m!" . . . . .	243
Sweets in the Making . . . . .	244
Welcome to the Traveler . . . . .	249
Ellsworth Milton Statler . . . . .	250
The Wayside Inn . . . . .	251
A Hotel Dining Room . . . . .	254
Future Hotel Managers . . . . .	257
On Board an Ocean Liner . . . . .	258
Dorothy Canfield Fisher . . . . .	268
Guardians of Art . . . . .	271
Engineers of the Geodetic Survey . . . . .	272
The Hammer by Which the Steel Is Wrought . . . . .	274
The Mill . . . . .	276
An Early Choice of Vocation . . . . .	278
Augustus Saint-Gaudens . . . . .	279
Genius Sculptures Genius . . . . .	280
Professional and "Professional" . . . . .	282
The Consecration of a Bishop . . . . .	290
The Salvation Army . . . . .	291
The Doctor . . . . .	293
Medical Inspection at Ellis Island . . . . .	294
William C. Gorgas . . . . .	295
American Red Cross . . . . .	297
The School Dentist . . . . .	298
Charles William Eliot . . . . .	302



## ILLUSTRATIONS

xi

PAGE

Charles Evans Hughes . . . . .	308
California's State Capitol . . . . .	309
Familiar Public Servants — (1) . . . . .	311
Familiar Public Servants — (2) . . . . .	312
Woodrow Wilson . . . . .	315
Municipal and Federal Employees . . . . .	318
County Court House, Riverside, California . . . . .	320
Earning While Learning . . . . .	324



# OUR WORLD OF WORK

## To the Junior High School Pupils :

If you were compelled to decide on your life work to-day, would you know how best to do it? Do you know what your abilities and interests are and where to find a place to use them to the best advantage? Do you know anything about our world of work, its different tasks, and its workers? Do you know why your future success as a worker depends upon your education as well as upon your ability? Do you know what a *vocation* is?

The above questions and many like them are to be discussed in this study of our world of work. The purpose of this book, however, is not to lead you to an immediate decision as to what your life work shall be — that decision, for many of you, will not be made for some years yet ; the aim is rather to give you a method of study by which you may later choose your life work wisely and to help you take your first steps in that study.

There are so many different occupations in our world of work that one could not possibly study them all. Fortunately, we may classify them according to five big fields of work. This text will name these fields and show you how to tell in what field an occupation belongs and how much training and skill are needed to do well the work of that occupation.



# OUR WORLD OF WORK

## INTRODUCTION

### CHAPTER I

#### BEGINNINGS IN THE WORLD OF WORK

*For his heart was in his work, and the heart  
Giveth grace unto every art.*

— LONGFELLOW, *The Building of the Ship*

**Waking Up.** — Jack had spent the day at the museum. With the other members of his class, he had been through the Egyptian room and had seen the dried-up mummies in their long, queer cases. He had been in the Indian relic room, the fossil room, the caveman room, and in many other rooms filled with objects of long ago. It was a strenuous day and it was a tired Jack who flopped into bed that night.

As soon as he went to sleep, things began to happen. He found himself in a place called Long Ago, a curious place with hairy people clothed in rough skins like the deerskin on the table in his father's den.

They seemed especially interested in Jack's clothes. "What skin is this?" asked one big fellow, feeling of Jack's coat.

"It's not a skin; it's cloth," said Jack.

"How is it made?" asked the caveman.

"Why," said Jack, "it's made by workmen in a factory."

"What is a factory, and what are workmen?" asked the burly fellow.



LONG AGO

Clothes of skin, rude weapons and pottery, rough drawings on the cave walls, and grass ropes such as the woman is making here were all parts of the caveman's vocational life.

Jack was trying to think how he could explain this, when his embarrassment ended — he woke up.

But the caveman's questions remained vividly in Jack's mind and set him to thinking. Gradually it dawned upon him that America, in fact all modern civilization, owes its existence to many activities of which primitive man knew nothing. Manufactur-

ing, engineering, teaching, law, radio, journalism, rail-roading, aviation, commerce, and science—many hundreds of occupations are open to the modern worker, whereas early man spent most of his time seeking food and shelter for himself and his family.



A MODERN FACTORY

This is a factory for the manufacture of watches. Try to picture the machinery, workers, and raw materials used to produce the finished watch. Could you have described such a plant to the cavemen?

**Finding Your Field.** — Jack's thoughts about his dream gave him other new ideas. Up to this time, he had taken life pretty much as he found it, without asking how or why. He had not stopped to consider that he owed much happiness to the work of science and the arts, and he had rarely given more than passing thought to the importance of work in the life of the world. If he ever thought of the future, it was with a vague, pleasant idea that, when he grew up,

all the comforts and good things of life would come to him of themselves, with no serious effort on his part.

But now, partly because of this queer dream, Jack began to realize that life would not permit him to



THE WORK OF SCIENCE

Physicists of the Bureau of Standards at work in their laboratory. The long, hard training required for success in this vocation pays welcome rewards in interesting discoveries and useful contributions to the world's work.

leave all the work to the other fellow. Some day he must find a field of work for himself. Would he be an inventor and produce a new kind of machine; or an archæologist who would reveal valuable records of the past; or just what sort of work would he do?

Like Jack, you members of this guidance class have reached an age when you should study this problem of work. What fields

of work will *you* enter? Where can you get help in answering this question and how will you go about the task of studying the various vocations open to you? As a starting point, you should try to get some idea of how many opportunities your own country offers in the workaday world.



*International Newsreel*



# STUDYING VOCATIONS FOR WOMEN

*International Newsreel*

*Above:* Students in a school of horticulture for women.

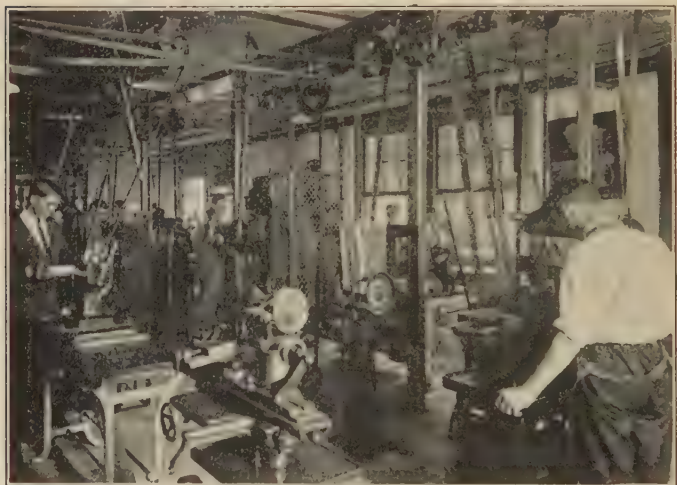
*Below:* A batik class in the art school of the Educational Alliance, New York City.

Women have an increasingly important part in our world of work and so vocational guidance for girls is a necessary course in our educational program.





*Official, U. S. Army Air Corps*



*Courtesy, American Optical Company*

### STUDYING VOCATIONS FOR MEN

*Above:* Testing battery ignition units, in the Air Corps Training School, Chanute Field, Illinois.

*Below:* In the machine shop of the Southbridge (Massachusetts) Vocational School. These boys work in a near-by manufactory and attend the trade school during alternate weeks. They are paid standard wages for the time spent in the factory — earning while learning.



**America at Work.** — There are several thousand different occupations in the United States. Even the United States Bureau of the Census at Washington cannot state exactly how many there are. The 1920 report of this bureau states that of 41,000,000



AT WORK IN THE BUREAU OF THE CENSUS

This is a view of the sorting machines and their operators. The machines sort and group the cards with respect to such facts as sex, color, and nativity, so that they may be tabulated.

workers <sup>1</sup> ten years of age and over, almost exactly half (50.3%) were working in gainful occupations. These workers are divided into 572 groups. Girls or women are employed in all but 35 of the 572 groups. In other words, 94% of these 572 groups of occupations are open to women.

---

<sup>1</sup> The census for 1920 gives 41,614,248.

It is because work in the modern world has become so specialized that we cannot state exactly the number of occupations in which people are engaged in the United States. In making shoes, for example, what was once the work of one person has now become



THE VOCATION OF ACTING

*International Newsreel*

This picture was made during the filming and recording of a talking photoplay. The camera man (top center) is in a sound-proof booth; the director, crouching near the microphone, directs the actors. This picture suggests at least six occupations. Can you name them?

the coöperative work of nearly two hundred different operators. Besides the operators, many other kinds of workers are needed to conduct the business of the factory, such as keeping the building and machines in order, keeping the records of the business, buying the materials and machines used, selling the products

of the factory, and collecting the money for shoes that have been sold.

Unfortunately, the names of some occupations such as *foreign trade*, *acting*, and *crime detection* have an appealing, romantic sound which deceives many young people. Your first picture of yourself doing wonderful things in such a vocation may never be realized. You will probably be happier in a vocation much less spectacular than the one you fondly pictured. Of course, some of you may have to learn by practical experience which vocation is wrong for you and which is right. But your school experience will help you, especially if you follow the plan of study given in this book.

**Jobs, Occupations, and Vocations.** — Probably you have not stopped to think just how the several terms applied to work differ in meaning. Suppose that you are mowing your neighbor's lawn or that you are taking care of a neighbor's home while the mother attends some social affair. You receive fifty cents for your work. Did you have a job, an occupation, or a vocation? *A job is some work of short duration* which may or may not be the kind of work by which one earns a living. On the other hand, *an occupation is regular and continued work* by which one earns his living. A vocation is vastly different from either. A vocation also is work by which one earns his living but — and here is the difference — *a vocation is an occupation undertaken as a life work.*

A vocation means to the person following it that his occupation is the one big service that he is called upon to render in the world's work. That occupation for him, no matter what it is, no matter how low or high socially, is his part in the progress of the world ; it is no longer simply his occupation, it has become his field of service to his fellow men. But remember that in a lifetime a person may have several vocations, one leading into another ; for example, selling into manufacturing, or law into banking.

**The Five Fields.** — The 572 groups of occupations reported by the Bureau of the Census represent many hundreds of different kinds of work. At first glance these hundreds of possibilities present a bewildering outlook to one starting a study of the world of work. But a great many of these positions have features in common, so that a person may succeed in any one of many kinds of work. Consequently, we should begin our present study by first giving some attention to the five great divisions of occupations. These are already familiar to you — the fields of agriculture, business (commerce), industry, home making, and professions. These five fields of work have a close relation to the agricultural, business (commercial), industrial, home-training, and academic courses in school.

You should note that each of the five fields includes occupations and vocations which are similar in the nature of work required. *Farming*, for example, to be a success must be conducted as a *business*,

## THE FIVE FIELDS

### THE FIVE MAIN OCCUPATIONAL FIELDS IN RELATION TO THE NINE CENSUS FIELDS

1. Agriculture . . .	{	1. Agriculture Forestry Animal Husbandry
2. Business . . .	{	2. Trade 3. Clerical occupations
3. Industry . . .	{	4. Extraction of minerals 5. Manufacturing and mechanical industries 6. Transportation
4. Home making . .	{	7. Domestic and Personal service
5. Professions (and allied services) <sup>1</sup> .	{	8. Professional service 9. Public service

### WORKERS IN THE FIVE MAIN FIELDS <sup>2</sup>

	TOTAL	MALE	FEMALE
Agriculture . . .	10,953,158	9,869,030	1,084,128
Business . . .	7,369,520	5,275,612	2,093,908
Industry . . .	16,972,329	14,826,070	2,146,259
Home making <sup>3</sup> . .	28,287,854	776,334	27,511,520
Professions (and allied services) .	3,541,249	2,317,691	1,223,558

<sup>1</sup> The title *Allied Services* here enables us to enter with Personal Professions and Political Professions (chapters xiii and xiv) personal and public services in all training levels.

<sup>2</sup> Occupational statistics of the 1920 census. These figures include all persons 10 years of age or more engaged in gainful occupations. See the graph on page 334.

<sup>3</sup> Women who have been married, domestic service, and institutional home making.



# THE CHILDREN'S WARD IN A MODERN HOSPITAL

Is nursing a job, an occupation, or a vocation? Explain. Like most other kinds of work it has many joys to brighten its services.



*International Newsreel*

# AT HOME WITH WALTER DAMROSCH

Walter Damrosch found his vocation early in life.



as many an untrained farmer has discovered who thought that he could prosper without bookkeeping, careful buying, and prudent marketing. A farmer, too, should have skill with mechanical tools to keep



*International Harvester Company*

#### THE FIELD OF AGRICULTURE

The soil cultivator, the silo, the water tower, the tree-lined road, the wide expanse of field, the workman, and the other elements of farm life here pictured show how closely related the farmer's work is to that of other vocations.

his machines in repair; a modern farm has its own repair shop. *Science* also is a big factor in successful farming; the quality of soils, fertilization, rotation of crops, grain, plant, and fruit cultivation, the feeding and care of domestic animals — all these and many other factors of scientific farming demand a knowledge of science and scientific methods. Your



first and most important problem, therefore, is to discover the field of work in which you are particularly interested and, secondly, at a later time to select the vocation within this field for which your abilities and training fit you.



#### SAFEGUARDING THE PUBLIC FROM IMPURE FOODS

Testing flour and spices at the Bureau of Chemistry, Department of Agriculture, Washington, D. C. The instruments and materials with which this scientist works, his training, and other phases of his occupation fittingly suggest the five fields of vocation. Explain.

Most girls need to prepare for the work of two fields — home making, and one other. While their major interest will be in the home and its management, for a few years at least, prior to marriage, they will be concerned with the work of some other field in which they may attain vocational success.

*Agriculture* is concerned with plants and animals. Its main divisions are plant husbandry and animal husbandry.

*Business* (commerce) has to do with buying and selling, including correspondence and record keeping.

*Industry* has to do mainly with the transformation of materials into the thousands of articles used to-day. The principal divisions of industry are mining, manufacturing, building, and public utilities.

*Home making* is divided into family home making and institutional home making, such as the management of hotels and orphanages.

*Professions* include those occupations which require preparatory training higher than that of high school. Some of the vocations in the four other fields, then, belong in this field too. We have divided professions into three main groups: fine and practical arts, personal professions like medicine and teaching, and political professions.

The five fields may be outlined as follows:

Agriculture	Home Making
Plant husbandry	Family home making
Animal husbandry	Institutional home making
Business	Professions
Buying and selling	Art professions
Office work	Personal professions
	Political professions
Industry	(Remember that personal
Mining	and public services of less
Manufacturing	than science training are
Building	also included as <i>allied serv-</i>
Public utilities	<i>ices</i> under <i>professions</i> .)

**A Program of Study.** — Later we shall study these five vocational fields in detail. Each is not entirely a separate field but is closely related to and dependent upon the other vocational fields. To classify vocations further, the occupations belonging to each of the *five major fields* may be arranged on *three levels according to training required*. This classification by levels we shall study in the next chapter.

Somewhere along the line in agriculture, business (commerce), industry, home making, or professions, you will find the place that will demand the best that you have to give in service. You have now an opportunity to study these fields and to learn what the workers do, what each field offers in working conditions and in financial and other rewards, and what each requires in the personal qualities and preparation of its workers.

The financial returns of a vocation will usually be reasonably satisfactory, if one is properly prepared for it and at the same time uses good judgment in selecting the right location for following it. The wheat farmer, for example, could never be successful on a soil-starved New England hillside; nor could a restaurant keeper find success as does the miner in remote, thinly populated areas. Then, too, the law of supply and demand affects the rewards of an occupation. Thus you should consider whether or not an occupation is overcrowded. But the opportunities are so many that, given the right conditions and proper training, very few people to-day should fail to attain vocational success.



*Official, U. S. Army Air Corps*



*Official, U. S. Army Air Corps*

### VOCATIONS IN AVIATION — (1)

The young men in the Air Corps Training School at Chanute Field, Illinois, are enlisted in the army. The United States gives them expert instruction in the work of airplane mechanics. In the upper picture they are learning airplane covering and fabric work; below, they are busy on fuselage alignment and repair.



*Official, U. S. Army Air Corps*



*Official, U. S. Army Air Corps*

### VOCATIONS IN AVIATION — (2)

In the Department of Mechanics, Air Corps Training School, many young men learn that piloting is only one of many occupations in the new industry. The upper picture shows the work of tracking and balancing propellers: below is a view of the advanced machinists' class.

## To the Junior High School Boys and Girls :

Your guidance class must be more than a reading and discussion class. It ought to mean much thinking and some work of your very own. A *scrapbook* provides an excellent way to record these personal thoughts, feelings, and special interests. Your teacher will tell you what kind of notebook to use for this purpose.

The first thing to do as each chapter is completed is to make a copy of the guidepost on page 22 and fill out the guidepost sign. Label this section *My Guidepost*. The guidepost sign in each case should be the main point of the chapter briefly expressed in *your own* words.

The second thing to do is to summarize the thoughts of the chapter as directed under the heading *Chapter Information*.

The *Scrapbook Suggestions* will help you to make your scrapbook more interesting by applying your guidance study to everyday affairs.

The *Interesting Readings* are for leisure hours or for library hours. Choose one of them and, after you have read it, write in your scrapbook a brief paragraph telling your opinion of it. If you read more than one of the books and stories listed, make a note of the others also.





#### YOUR GUIDEPOST

When you copy this guidepost in your scrapbook, fill the sign space with a direction pointing the way to success.



MY GUIDANCE SCRAPBOOK

1. *My Guidepost*

When you have drawn your guidepost, choose for your guidepost sign some direction like "The Road to My Place in the World." You may find your direction actually expressed in the chapter or you may use some motto or phrase of your own that will contain the main thought of the chapter. Try to use as few words as possible.

2. *Chapter Information*

Hereafter, you will be asked under this heading to write four or five sentences outlining the principal thoughts of the chapter. As an aid to you in getting started right such a summary is presented by the following sentences :

- (1) Our country offers you several thousand occupations from which to choose.
- (2) In our complex working world, there are numerous occupations for which you are suited, among which you must choose intelligently.
- (3) The five great fields of work are agriculture, business, industry, home making, and professions.
- (4) The work in each field is closely dependent upon vocations in other fields.
- (5) Vocational success will come through a right choice of an occupation and proper training to qualify for it.

3. *Scrapbook Suggestions*

(1) Look through a magazine and find pictures which illustrate each of the five great fields of work. Paste them in your scrapbook and under each write an appropriate caption.

(2) Newspapers often print items telling of some new invention, or other facts of vocational interest. Cut them out and paste them in your scrapbook. Add a word or two in comment at the bottom of each clipping, giving your opinion of what the item states.

(3) Can you find a story in some newspaper or magazine telling how some man or woman has made a contribution to the world of work after overcoming hardships? If so, retell it in your own words, on a page of your scrapbook.

## THINKING THROUGH

1. Suppose you were to be taken back suddenly into the land of Long Ago, as Jack was. What things that we use every day, and many times a day, could you describe clearly, yet simply enough for the cavemen to understand? Dramatize such a scene in class, having one of your classmates describe some commonplace but useful invention like a sewing machine. Assume that the class are primitive people of Long Ago and try to make your description carry a brief but clear picture of man's progress.
2. Name three occupations to which women have recently gained admittance. Name three which are not open to women. Do you think they will be in the future?
3. Why does it take approximately 200 different machine operators to do the work that one shoemaker used to do? What advantage is gained by this division of labor? Is there any disadvantage?
4. Make a list in order of your preference of five occupations which you would consider adopting as your vocation. Which of these would require a high-school education? a college education? specialized training beyond college? In what field of work is each found?
5. What are some of the reasons why we should include home making as one of the five main vocational fields?
6. What steady occupations might result from the "odd jobs" which you do after school or on Saturdays?
7. Do you think that it is possible for people without any special talent to have a *vocation*? How does an occupation differ from a vocation?
8. What are the qualities a person must have to make a success of his vocation?
9. Why is it that some people who have had to battle their way through hardships have become great? Name such a person. What did these hardships contribute to his career?

### Field Studies

All Field Studies may be reported verbally or in written form to the class. They should be brief enough to require only five minutes for presentation. Memorize the following three points for use as a measuring stick for every occupation you study.

1. **What the worker does —**

Mental work ; manual work.

2. **What the work offers —**

Working conditions ; steady employment ; possible rewards ; advancement ; service to others.

3. **What the work requires —**

Personal qualifications ; general education ; special training.

Whenever you have applied these questions to some occupation, then ask yourself the question : **Is this a vocation for me ?** See also page 337.

### FIELD STUDIES

1. If you know an old cobbler, pay him a visit and have him show you or tell you about shoes made entirely by hand — how much time the process required, and how it was done. Perhaps he will have a pair that he himself has made. Then visit, if possible, a modern shoe factory and watch the different processes that are done by many people. Report to the class the result of your research.
2. Compare the principal occupations in the United States with those in Italy. To do this, you will need to find out from the library or a geography what the principal industries of each country are, how the climates differ, how the standards of living affect work, and other factors which influence the industries of a country. If any member of the class has been in Italy perhaps he will describe the kind of work he

has seen done there in connection with two or three of the principal industries.

3. If there is a successful farmer among your acquaintances, talk with him about farming as a business and report your talk to the class.



A GOOD START IN VOCATIONAL STUDY

These boys are studying shoe repairing by mending their own shoes. They are pupils in an industrial trade school in one of our large eastern cities. Is there still a place for cobbling in our modern life?

### INTERESTING READINGS

#### 1. *Stories and Biography*

*Dombey and Son* by Charles Dickens

*Girls Who Did* (Maria Jeritza) by Helen Ferris and Virginia Moore

"We" by Charles A. Lindbergh

*Stories of American Inventions* by Inez N. McFee. (Select the chapter which interests you most.)

*Caleb West, Master Diver* by F. Hopkinson Smith

*Heroines of Service* (Marie Curie) by Mary R. Parkman

*The American Boy, The American Girl, St. Nicholas,* and *The American Magazine*<sup>1</sup> are among those periodicals having interesting stories of people who are succeeding to-day.

## 2. Other References

*Trade Foundations* (pages 4-8) by R. H. Rodgers and others

*Man before History* by Mary E. Boyle

*Elementary Social Science* by Frank M. Leavitt and Edith Brown

*Readings in the Story of Human Progress* (pages 5-19, 30-39) by Leon C. Marshall

*Everyday Life in the Old Stone Age* by Mrs. Marjorie Quennell and Charles H. B. Quennell

*How Man Conquered Nature* by Minnie J. Reynolds

*From Beacon Fire to Radio* by Walter K. Towers

*Reader's Guide to Periodical Literature*.<sup>1</sup> This is an index usually found in public libraries which guides you to current magazine stories and articles on various subjects.

*Compton's Pictured Encyclopedia*<sup>1</sup>

*The World Book*<sup>1</sup>

*Abstract of the Fourteenth (1920) Census of the United States*,<sup>1</sup> Bureau of the Census. Also volume iv, *Population — Occupations*

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<sup>1</sup> These references will be helpful in the following chapters as well as in this. They are omitted hereafter only to avoid repetition.

## CHAPTER II

### VOCATIONAL TRAINING LEVELS

*No man is born into the world whose work  
Is not born with him; there is always work,  
And tools to work withal, for those who will;  
And blessed are the horny hands of toil.*

— LOWELL, *A Glance behind the Curtain*

#### 1. STEPS TO SUCCESS

**An Illustration from Life.** — George H. Jones came from a home so poor that, in order to finish the eighth grade, he had to spend his time after school in working. Afternoons and often evenings, Saturdays, and holidays found him on the job. When lack of money forced him to leave school, he reversed his daily program, using his free time for study.

He started as a worker in a furniture factory. His days were filled with the duties of his job, but his evenings were free for study. He bought a book on stenography, made a set of imitation typewriter keys on a sheet of cardboard, and studied faithfully to become a private secretary. While holding that position, he studied law in the evenings and became a lawyer. This training and experience finally brought him to a place of leadership in the affairs

of the Standard Oil Company of New Jersey, one of the largest corporations in America.

George Jones's career is especially interesting to us because it represents three vocational training levels which we shall study in this chapter. He began as a little-skilled factory laborer, advanced to the position of skilled stenographer and private secretary, and finally became a trained lawyer and executive. The training levels indicated by his positions as a little-skilled workman, a skilled workman, and a trained leader are to be found in all



*Standard Oil Company of New Jersey*

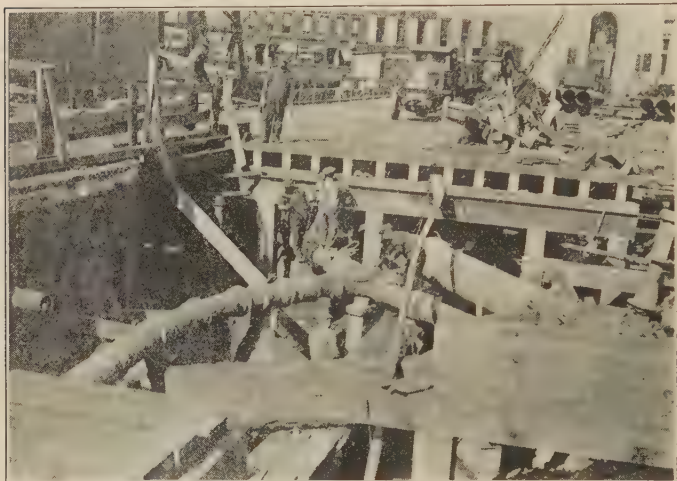
GEORGE H. JONES

five of the vocational fields and offer a convenient means of classifying various occupations.

**The Three Training Levels.** — A pupil who is old enough to leave school may, if he finds one, take a job as a little-skilled factory worker or some other position where no special training or skill is required. The lowest of the three vocational levels includes all such work, and we call it the *little-skill*



*level.* If the pupil goes on to high school and takes a commercial or industrial or agricultural course, he receives training for work on the middle level, which we call the *skilled level*. Work on this level com-



*Keystone View Company*

#### SUBWAY CONSTRUCTION IN NEW YORK CITY

All three training levels are suggested by this picture. Explain.

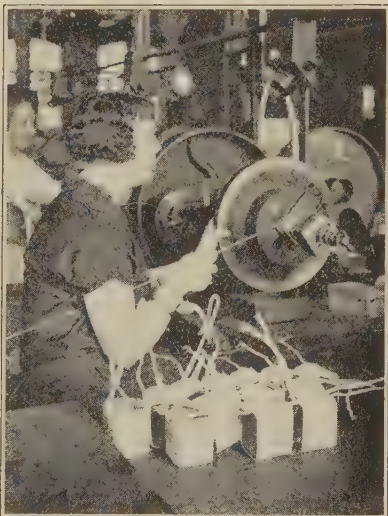
binest some skill with hands and some scientific knowledge of the task. If the pupil continues his study beyond high school, he is preparing for work on the third or *science level*. Each level includes several grades of work which differ among themselves on their own level.

**The Little-Skill Training Level.** — Let us consider the first or *little-skill level*. A man who trundles a wheelbarrow or shovels sand may be

performing a very useful service to society — often a necessary service. But however useful and necessary his work, the little-skilled laborer needs little special knowledge or skill to perform his task. On the other hand, he may be just as good a citizen in his home life and in his community as any workman on either the skilled or the science level.

On this little-skill level is the worker who has some special skill which can be acquired in a few weeks or months. A farm hand must display more skill than the man who trundles a wheelbarrow. He must know how to hoe corn, how to run a mowing machine,

and how to plow. But the skill required for these comparatively simple tasks is such that almost any person of average mental power can learn to do them in a few months. A girl operating a stamping machine in a factory or a loom in a carpet mill is often turning out a very wonderful piece of work, but her technical training and skill are much less

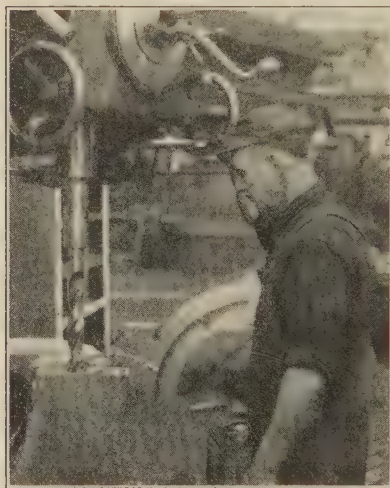


*General Electric Company*

#### WINDING TRANSFORMER COILS

What training level is here represented?  
Explain your answer.

than those required of the person who designed the machine. The United States Bureau of the Census calls many machine workers "semi-skilled operatives." That is, such workers require little skill to do their work and come well within our classification of the little-skill level.



*General Electric Company*

#### HIGH-SPEED DRILLING OPERATION

Let some one report to the class on the work done and the amount of skill needed in an operation of this sort. What field is represented here?

The little-skill level is important because it is a stepping stone that most of us will have to cross in order to reach a level for which most of us may qualify, the *skilled level*. Few of us, however, are interested only in the lowest training level of the vocation which we wish to follow for a life work; we all wish to strive for higher

positions. We may have to spend some time on the little-skill level in order to "carry on," just as George H. Jones did, but opportunities for advanced training and good schooling are so many nowadays that most of us may become skilled workers.



SKILLED WORKERS IN AN ANCIENT CRAFT—(1)

The potter's craft is one of the oldest of all crafts; to-day it has become one of our great industries and has many skilled workers in its ranks. The man above is "modeling" and the grace of his art shows that his heart is in his work. The girls and women are "enamel decorating." These two pictures, and those on pages 34 and 180, are used by courtesy of Lenox, Inc., one of America's manufacturers of fine china.



SKILLED WORKERS IN AN ANCIENT CRAFT — (2)

The ancient potter's wheel, now much improved and called the "jiggering machine," is used to form the simpler shapes of china such as plates, saucers, cups, and bowls. The skilled worker of the upper picture is turning out plates. In the lower picture the workers are "raised-gold decorating" — a very delicate task requiring much careful skill.



**The Skilled Training Level.** — On the *skilled level* the workman must have considerable hand skill, and knowledge that comes from experience. He must have the training that is acquired from actual practice. However, the worker on the skilled level does not need the scientific knowledge acquired from advanced and long-continued study in branches of special learning, such as the lawyer, doctor, engineer, or teacher must have. On this level occur the skilled trades in which a worker often uses a machine to help him in his work. The machine, unlike that operated by the girl in the carpet mill, is not automatic on this level; the workman's brain and hand are needed to design, to make, and to approve the product as well as to guide and take care of the machine. Carpentry, bookkeeping, stenography, and similar occupations belong on the skilled level.

Certain lines of work are on the border between little-skilled and skilled work, and so we shall find it somewhat difficult to classify such occupations. In general we may say that, if an occupation requires a year or more of training before one can qualify for it, it belongs to the skilled level.

Fortunately for workers on the skilled level, even modern inventions cannot replace the skill and ability gained by training and experience which are still required in many operations of production. Experience always will provide the supervisor, the foreman, and the skilled operator with opportunities for advancement, whether he is a mechanic, bookkeeper, or some other specialist.



**The Science Training Level.** — The *science level* we may also call the *professional level* or the *administration level*. This level requires a considerable amount of professional or technical skill developed from combined study and experience.



A SURGEON AT WORK

The three training levels are here represented. Explain.

The physician is on this level; so also are the mechanical engineer and the banker. Business executives, technically trained leaders, and professional experts all find their places on this upper level. We shall consider their special qualifications when we turn to our study of the five vocational fields. Let us bear in mind that sometimes science-level occupations may be attained while a living is being earned by work on the skilled level.

## 2. HOW TO REACH THE UPPER TRAINING LEVELS

**Education, the Stairway.** — It is mainly education that carries us from the *little-skill level* through the *skilled level*, to the *science level*. Not so very many years ago, as history reckons time, many vocations we



EDUCATION, THE STAIRWAY

John Muir's name is embossed over the entrance to this beautiful school building. Study his life work and tell the class about it.

think of now as belonging to the science level were attained by serving apprenticeships in them. A young man, wishing to become a lawyer, would do the simple work of some law office and would "read law" until he could pass the examination to be admitted to the bar. Similarly, a would-be banker, doctor, or technical engineer would prepare for his

vocation by combining an apprenticeship with "reading" in spare time.

In recent years there has been such an increase in the knowledge belonging to each vocational field, and the requirements in each have accordingly become so much higher, that a person now needs years of intense study to acquire the knowledge demanded by the vocations on the science level.

A few years ago a very large plant in Pittsburgh was studied to find out what graduates from the Carnegie Institute of Technology should know in order to obtain responsible positions in that plant. Two specialists spent several months studying the work of the plant and the preparation required of various employees, from shop mechanics and foremen up to officers of the company. It was found that there were three ways by which men in the employ of the company had risen to the higher positions: (1) by marriage into the families of the owners of the plant; (2) by graduation from a technical school; (3) by working their way up through many years of hard work, and through correspondence courses or home study.

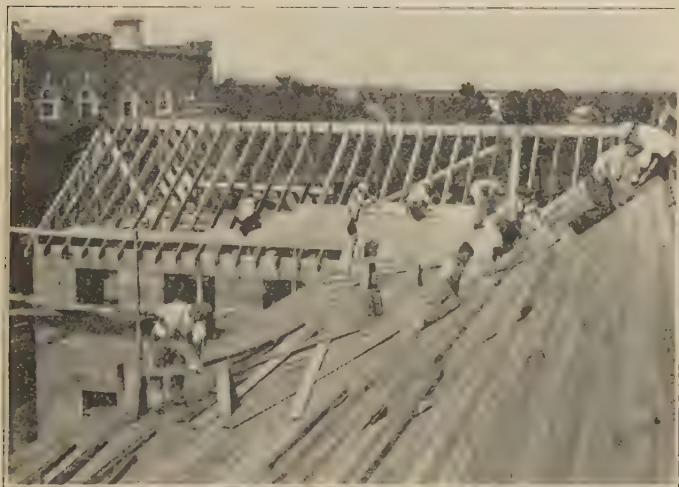
The first method, naturally, was not important to the investigation. The second method, that of the technical school, was the science approach and required only a comparatively short time on the skilled level before promotion was granted. We may call this the *professional-school* approach to the science level. The third method took many years of work on the skilled level and many long hours of



*Keystone View Company*

### SENIOR MEDICAL STUDENTS IN AN ORTHOPEDIC CLINIC

Another step for these students in their climb up the stairway of education. Look up *orthopedic* in your dictionary.



*Keystone View Company*

### LEARNING BY DOING

The town where these boys live needed a new building for its Industrial Arts School. The industrial arts classes constructed the new building. Here we see them putting on the roof.

outside study. This is the *skilled-trade* approach.

The survey proved that only a small proportion of those starting the third method ever reached the science level, but it did prove that some could pass from the skilled level to the science level without the regular technical-school training. Such a price, however, was too great for the majority to pay. Remember, however, that in addition to his training, a worker on the science level also needs years of practical experience before he has attained mastery of his calling.

### 3. THE THREE TRAINING LEVELS APPLIED TO THE FIVE VOCATIONAL FIELDS

**Finding the Right Training Level.** — Here we have what we may call the *Table of Vocational Training Levels*. It tells its own story.

THE TABLE OF VOCATIONAL TRAINING LEVELS

	VOCATIONAL TRAINING LEVELS		
	Little-Skill	Skilled	Science
Agriculture . . . . .	. . . . .	. . . . .	. . . . .
Business . . . . .	. . . . .	. . . . .	. . . . .
Industry . . . . .	. . . . .	. . . . .	. . . . .
Home Making . . . . .	. . . . .	. . . . .	. . . . .
Professions (and allied services) . . . . .	. . . . .	. . . . .	. . . . .

Whenever you read about occupations, keep this Table of Vocational Training Levels in mind. You may read one book which divides occupations into

ten classes. Another book will give you a dozen or more; others perhaps less. It is important, then, that you have some simple scheme whereby you can place any occupation where it belongs in its proper vocational field and on its proper level. You will find the accompanying Table of Vocational Training Levels helpful in doing this. Use it whenever you can.

Suppose we try out this table. Let us take the case of a farmer trying to grow corn and wheat, keeping no records, leaving his few farm tools outdoors all winter, and keeping several cows month after month when they have ceased to give the quality and quantity of milk that pay for their board. Where does this farmer belong on our table?

Where would you place a "practical" nurse who has an interest and some skill in nursing but has never studied the science of nursing?

Where would you place the professional boxer and the professional wrestler?

Where would you place the professional dancer?

Where does the bricklayer belong in the table?



*International Newsreel*

HELEN WILLS

Amateur or professional?



Take the case of a woman buyer for the art department of a large Chicago department store. She is a graduate of a well-known school of art, visits the leading European art centers each year, and brings back with her some originals in oils as well as some fine etchings and prints. Where does she belong?

**Factors of Success.** — The vocational level which a person finally reaches depends on several factors. We have already agreed that the chief of these factors is *education*. But education, in turn, depends on several almost equally important factors. Two children from the same home may inherit altogether different abilities. One may have a gift for mathematics, another for languages. One may succeed well in a science laboratory, another in a shop; their success depends upon proper training and proper choice of vocations.

There are some boys and girls who do not have the particular reasoning power that is required to do the work of a medical school. They might be successful, however, in journalism, which also is a profession. Other boys and girls do not have the type of ability required for a college preparatory course in high school, no matter how hard they work. Nearly all of these can be successful, however, on the skilled level in one or another of the five vocational fields. The vocational field you select and the level you achieve depend in part, then, on the *abilities you inherit*.

*Environment* of home, community, and vocational conditions is another factor which has something to do with vocational success. Many men and women



### FUTURE CHEMISTS?

*Courtesy, Huntington School*

These boys are preparing for college. A knowledge of simple chemistry is often a college entrance requirement. Perhaps some of these boys will choose chemistry as their life work.



### CHEMISTS AT WORK

*Keystone View Company*

These chemists are in the employ of a large city. They are here analyzing samples of the city's water supply.

have started in an environment of comparative poverty and low vocational training level. In spite of this, by their own self-made opportunities and persistence in seeking training, they have risen to positions of business independence and to higher



A GARMENT WORKER AND HER FAMILY

Linings to baste and children to tend — compare this environment with that of the home shown on page 224.

levels in their chosen vocations. American life is full of such self-made men and women.

Wherever you hear the word *self-made* used of any man, it means that he has reached a training level far above his poor start in life. No matter how discouraging environment may be, it can be changed for the better. Do you realize that almost every boy and every girl who have reached the junior high school can aspire at least to the skilled level in some

one of the vocational fields? If you improve your opportunities to the utmost, other conditions may permit you to reach even the science level.

*Opportunity* is also an important factor in determining vocational success. Evening schools, continuation schools, and many other helpful agencies are



*Keystone View Company*

#### A NIGHT CLASS IN BRICKLAYING

The department of vocational education in Los Angeles provides such training under a coöperative system.

providing the opportunity for workers to advance to higher vocational levels. Even though you cannot continue in school as far as you would like, you still have the opportunity to get ahead by studying your job and by studying the job higher up. Thus you see that *you can largely create your own career*. The level which you are to occupy in your chosen

vocation depends to a great degree upon your own ambition, your own training, and your own effort.

Summarizing, the factors of success are: (1) education, (2) inherited abilities, (3) environment, (4) opportunity, and (5) work.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

What motto do you suppose George H. Jones would have chosen for *his* guidepost to success? Use it on your guidepost, too, if you wish. Or perhaps you will find other expressions in the chapter which will inspire *you* to choose the right road to success.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) If you want to be a success in business (or in life), develop qualities to which these descriptive adjectives will apply:

Cheerful	Neat
Conscientious	Open-minded
Considerate	Sincere
Diligent	Tactful
Enterprising	Trustworthy

Look up each of these words in a dictionary and then arrange them in your scrapbook according to your estimate of their importance. After each word, write the quality described. For example, *sincere* — *sincerity*. Add other adjectives which you think should be included in this list.

(2) If possible, find a news article in this week's newspaper telling the story of a man or a woman who has climbed from a humble position to one of leadership.

(3) Look up at the library and copy into your scrapbook Henry van Dyke's poem *Work*.

### THINKING THROUGH

1. Have you ever worked at an unusual "odd job"? If so, report to your classmates what your duties were, whether you enjoyed them, and what gain you derived from the job. Perhaps your job was a common one but the circumstances were unusual. If you have a good sense of humor, you can make the most humble task of interest to your listeners.
2. Suppose you, like George H. Jones, started work as an unskilled laborer in a furniture factory. By what path different from his might you reach the position of a trained leader?
3. Education is an "Open Sesame" to success. What does that mean? Do you agree, or is something else necessary?
4. Discuss the advantages of a college education in helping to attain a high position in the world of business.
5. Copy the *Table of Vocational Training Levels* on the blackboard. Then let one pupil at a time name an occupation and call on another pupil to state the level and field in which it belongs. This may be arranged as a contest, with girls on one side, boys on the other, or one side of the room against the other. The teacher will act as final judge in case the class does not agree, and may keep the score.
6. Name three occupations on each vocational level. (Do not use those mentioned in the text of this chapter.)
7. Name five positions whose workers the United States Bureau of the Census would list as "semi-skilled operatives." On what level would you classify them?
8. What is your definition of success? Can it be acquired only by those on the science level? Compare your definition with one in a dictionary.



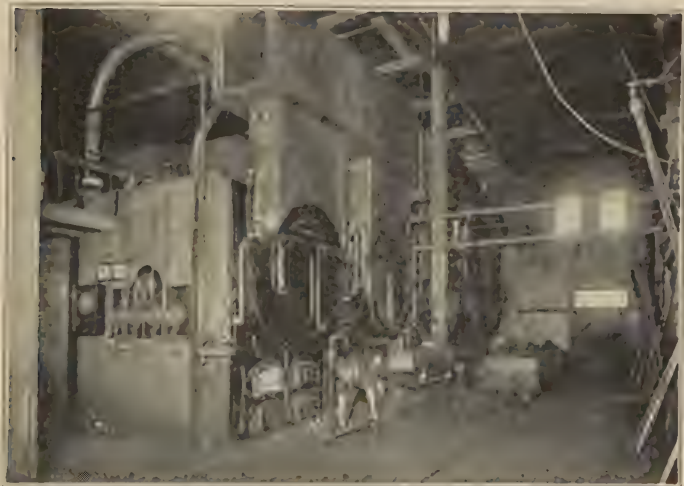
9. Which is more important, practical experience or technical training? If you disagree with other members of the class, choose one member to uphold your side and let him argue the point with a member who takes the opposite stand. A vote from the class may be taken.
10. What is a *professional* baseball player? On what level is his occupation?
11. What special abilities have you inherited? Along what line, then, might you be most likely to find your life work? Name one or two definite occupations in which this ability would be a valuable asset.
12. Discuss the saying "Opportunity knocks but once." Do you agree with that opinion?
13. When you finish school, shall you take the first position which is offered you, or shall you wait until you receive an offer of exactly the kind you want? Discuss the proper way of applying for a position. See page 335.
14. Learn Henry van Dyke's poem *Work* which you are copying into your scrapbook for this week.
15. Tell in your own words what the quotation at the beginning of this chapter means.

#### FIELD STUDIES

1. Select some local vocation with which you are familiar only in name. You know in a general way what the worker does in this vocation. Now confer with the worker and, if possible, see him or her at work. Find out as much as possible about the work and about the training needed. When you select the vocation for this exercise, choose one, if possible, which interests you as a likely career for yourself.
2. Working alone, or with two others in the class, select three different vocations represented in your community with workers on each training level. Observe their work or interview them. Refer to directions in the box on page 25.
3. In the library, look up an account of the Opportunity School, first established in Denver, Colorado.

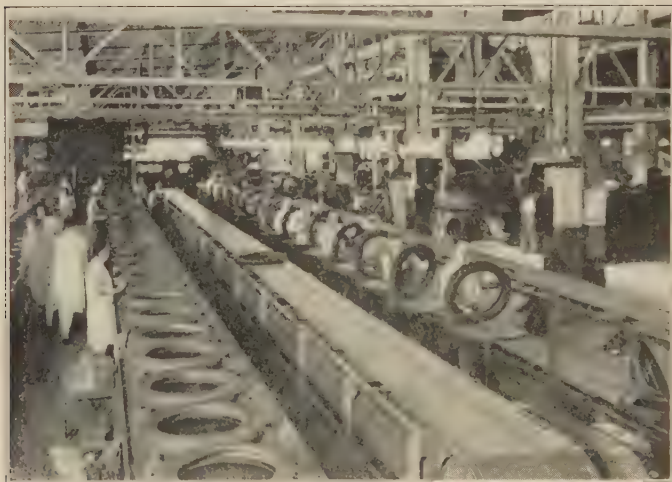


James H. Thompson



### THINKING THROUGH BY MEANS OF PICTURES — (1)

Every time you see a picture of a worker at work, whether the picture be in this book, on the screen, in a magazine, or elsewhere, ask yourself what the worker does, what the work offers, and what the work requires. Fix these questions in your memory and use them throughout this course. Apply them right here. The man above is a *lumber*; those below are *firemen* in the boiler room of a large factory.



*Courtesy Goodyear Tire and Rubber Co.*

### THINKING THROUGH BY MEANS OF PICTURES — (2)

Modern machinery is making places for women everywhere in the world of work. The upper picture shows women inspectors in a woolen mill; below, inspectors in the finishing room of a tire factory.

4. Ask your father or some other older person with what sort of position he started earning his living. Find out how he happened to pick out his vocation. Trace his career from the beginning up to the present time. Do you intend to take up a similar kind of work? Summarize its advantages and disadvantages.
5. Talk with a self-made man or woman on the topic "The Advantage of a High-School Education."

### INTERESTING READINGS

#### 1. *Stories and Biography*

*Girls Who Did* (Gertrude Hawley) by Helen Ferris and Virginia Moore

*Modern Lives* (Thomas A. Edison, Samuel S. McClure, James J. Davis) by Charles Robert Gaston and Gertrude Fales Gaston

*The Making of Herbert Hoover* by Rose Wilder Lane

*Boys' Life of Abraham Lincoln* by Helen Nicolay

*Overcoming Handicaps* (Aaron Drucker, Michael Pupin) by Archer Wallace

*Famous Leaders of Industry*, First Series (William L. Douglas, Charles M. Schwab, John H. Patterson) by Edwin Wildman

#### 2. *Other References*

*Your School and You* (chapter xxix) by Walton B. Bliss

*Getting into Your Life Work* by Herald M. Doxsee

*What Are You Going to Be?* by Hallam Hawksworth

*Choosing a Career* by Orison Swett Marden

## CHAPTER III

### THE WORLD OF WORK IN SCHOOL

*New occasions teach new duties;  
Time makes ancient good uncouth;  
They must onward still, and upward,  
Who would keep abreast of Truth.*

— LOWELL, *The Present Crisis*

#### 1. HOW SCHOOL PREPARES FOR LATER YEARS

**School or Work?** — Harry Martin, for some reason or other, could not get along in school. He had no interest in his studies, did not care for any of the school clubs, disliked even the shop work on airplanes, and, though he was very fond of athletics, could not hold his place on the school teams because of his failure in studies. When the faculty committee regretfully removed him from the hockey team — he was its best player — he settled into a sullen grouch.

Harry brooded over his troubles and finally made up his mind to leave school at the earliest possible moment. He discovered that, with permission from his parents, he could secure a working certificate at fourteen years of age. He would be fourteen in April; in the meantime he could start the business of convincing his father and mother that school was

not the place for him. He could get a job at the shoe factory that would allow him plenty of spending money even though he paid a small sum to his father for board and room. Moreover, he would be his own boss and would pay his own way in the world.

Harry left school, went to work in the factory, worked faithfully and hard, and tried to learn all he could about the business. At the end of several years he was fairly successful in earning a living, but as he grew older he became ambitious to lead in his business life just as he had led on the athletic field at school. His contacts with various executives of the factory helped him to see clearly that education counts for a great deal in the world's work.

One evening he called on his former principal and, with no attempt to excuse himself, admitted his mistake in leaving school; he had come to get advice on how to make up for the lost schooling. His principal gave him a complete program of school work to follow in the evening high school, showed him how he could still later take an evening course at a near-by university, and gave him all possible encouragement to rise above his present training level.

Harry is taking his evening courses and gives every evidence of "making good." He is not wasting any regrets over the time he lost by his former stubborn dislike of school; rather he has done all in his power to keep other boys from making the same mistake. His experience has given him the right point of view.



**Learning and Earning.** — On page 28 we learned of a definite case where education paved the way for business promotion. Harry encountered a similar situation in the factory where he worked, and had the good judgment to follow the right path to his own promotion. If you have thought about leaving school to go to work, have you thought also of the probable future losses you will suffer in order to make a few immediate gains?

A recent investigation shows that every day you spend in high school may be worth forty-five dollars to you. In this investigation, a study of the earnings of a large number of high-school and grammar-school graduates showed that the average total life earnings of the former group exceeded those of the latter group by \$24,000. The study also shows that the difference between the two groups in *average yearly* earnings was \$1100; the difference in earnings of high-school and college graduates averaged \$3400 yearly.

To be sure, most of the high-school and college graduates were more intelligent and ambitious anyway, so that all of the difference in earnings was not due to their education. On the other hand, one grammar-school graduate reported an income of \$61,000 but, in view of the findings of the study, he was exceptional. Your schooling will be worth actual cash to you; the longer you continue it, the more it will be worth.

This does not mean that all educated people are rich, but it does mean that the majority of such



*Keystone View Company*



#### TWO TYPES OF VOCATIONAL EDUCATION

*Above:* Young Tennesseans learn to judge corn as a part of their agricultural studies.

*Below:* Here is the sheet-metal and heat-treatment department of the Southbridge Vocational School. (See again page 8.)

people have a greater earning power than they would have had if they had not been educated. We also know that education's biggest return is not in money but in the broad-mindedness and richer appreciation of life which it brings. Education trains, too, for worthy home membership and useful citizenship, which, in turn, make for better service in the world of work.

**Education and Vocation.** — Most of your school work is preparatory training for the vocation that you will finally enter. Very few boys and girls think of school in this way, but your teachers and parents regard your education as the basis of your life work. Thus, in order to give you a survey or bird's-eye view of the five great fields, the junior high school requires that you take courses in industrial arts, home economics, science, languages, introductory business courses, and agriculture. Your particular school may not call these courses by the same names, but undoubtedly it gives you work in all of them.

These survey courses furnish you a splendid opportunity to gain through experience an idea of the five major fields of vocations. You must come to think of your courses in terms of what they offer you in preparation for the career which you are to follow. From this time forward try to regard school as a place where you receive training for life; not just an institution to teach you so much reading, writing, and arithmetic, but a place to prepare you to be a worthy member of your home and community.

You can supplement this study by spare-time and

FOREIGN LANGUAGE ELECTIVES		<i>Learned Professions</i> { Medicine Law Ministry Teaching Library Work Social Work and others
COMMERCIAL ELECTIVES		<i>Business Occupations</i> { Bookkeeping Stenography Salesmanship Business Administration Telephone Service Department Store Service Statistical Service and others
PRACTICAL ARTS ELECTIVES	Sciences	<i>Technical Professions</i> (Boys) { Engineering Agriculture Chemistry Architecture and others
		(Girls) { Nursing Dietetics Child Care and others
	Trades	<i>Industrial Occupations</i> (Boys) { Machine Trade Pattern Making Sheet-Metal Work Auto Mechanics Printing Electricity and others
		(Girls) { Dressmaking Millinery and others

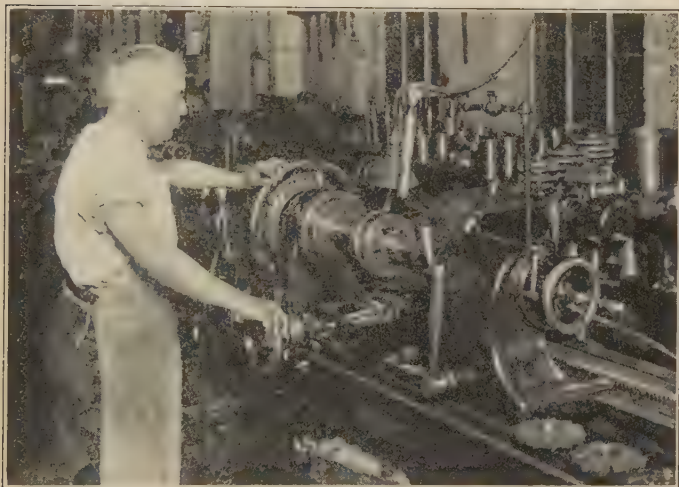
vacation employment in some occupation, usually on the little-skill level. In this outside work you can sample the working conditions, regularity of employment, opportunities for promotion, your own fitness and interest, and the qualifications required for that particular vocation. You should try to obtain work in the vocational field you like best.

This occasional employment while you are still in school provides an opportunity to find out by experience what additional school training you will need in order to reach the higher levels of the vocation. It may also show that you are not adapted to certain vocations. If you make this discovery before you leave school, you then still have time, perhaps, to prepare in school for another vocation to which you are better adapted.

## 2. HOW TO STUDY THE WORLD OF WORK

**Workers at Work.** — There is a big difference between *seeing* and *observing*. Often it is the difference between failure and success. People who merely see do not often learn much from what they see. Others, who have trained themselves to observe, use this power as a means to a more thorough knowledge of everything which comes under their observation. This fact is of special importance to you now because it suggests that you can also study vocations by *observing workers at work*. Careful observation will prompt you to ask questions regarding the work which you are observing, and so will increase your

knowledge of vocations. For example, if you observe a machinist at work, you may see him using a lathe as in the picture below. You watch him "tool" the rough piece of steel. You observe how he turns the various hand-wheels in adjusting the



A MACHINIST AT WORK

*General Electric Company*

He is cutting a high-speed worm for a worm-gear train.

cutting edges to the proper angle. You note that he turns a switch, and that power is delivered to his lathe. Each process arouses your curiosity. A few questions will explain to you the source of the power and the construction and operation of the lathe. Because you have watched him closely you will appreciate the skill with which he obtains the desired product. By your power of observation,



and by *thinking about what you observe*, you are actually studying the vocation of the machinist.

Your teacher or class chairman will doubtless arrange for *trips of observation* to places where work is in actual operation. On these field trips you will



A TRIP OF OBSERVATION

These boys and girls are combining social service (page 292) with their study of institutional home making. Their flowers and fruit will brighten many a little patient's eyes.

secure first-hand information of the various vocations that is obtainable in no other way. Remember that they are not sight-seeing trips but rare opportunities to observe and study vocations at close range.

A more recent way of observing workers is in *moving pictures* and lantern slides. Many industries have pictured their processes of manufacture from

raw material to finished product. Moving pictures in all five major vocational fields are available for use in schools. Occasionally moving-picture theaters show educational films relating to vocations. Films and slides make it possible for you to observe many vocations which you cannot personally visit. Perhaps your class will be able to procure a showing of such pictures. (See the detailed list of films and slides given on page 348.)

**Conferences with Workers.** — Frequently, also, *men and women* who are successful in their vocations *will be invited to your school* to tell you what they do, what the work offers, and what it requires. At other times you may have a chance to talk with successful workers in small *conference groups*. Then you can ask questions and the answers you receive will come straight from practical experience. Through both vocational talks and interviews you can acquire information which to a large degree is dependable.

Your *field trips*, the *assembly lectures*, and the *personal conferences* are likely to emphasize the attractive and agreeable conditions of the vocations. Successful workers in each vocation naturally want you to think well of their vocation. Caution urges that you check up your observation and information by some other study which will reveal to you unfavorable conditions. This supplementary information you can secure either by questioning workers who will give you the actual facts about the

vocation, or by reading books which tell the whole story.

Briefly, then, you may study the five vocational fields by training yourself to *observe* the workers themselves in places where they are employed, by *hearing talks* from vocational leaders, by *interviewing* and questioning representatives of the vocations, and by viewing *moving pictures* of occupational activities.



*Courtesy, Eastman Kodak Company*

#### MOVING PICTURES IN THE CLASSROOM

This class is ready for the "lights out" signal.

**Facts from Literature.** — Many novels and all biographies include accounts of the vocational experiences of their characters. These reveal not only the environment and the training which led the characters to choose their vocations but also the



THE ART OF PRINTING—(1)

Books, magazines, newspapers—what would we do without them? Printing as a vocation richly deserves your study. Above is an imaginative engraving of William Caxton, the first English printer, reading the first proof sheet from his printing press. Below is a battery of modern printing presses.



THE ART OF PRINTING — (2)

Closely allied to the work of the printer is that of the *photo-engraver*. Without his work the pictures in this book would be impossible. Above is an engraver executing a highly expert task of re-engraving. Below is a close-up view of the plates on a press. The sheet is only half printed ; with another half turn of the cylinder the printing will be complete.



conditions existing in the vocations at the time of the stories.

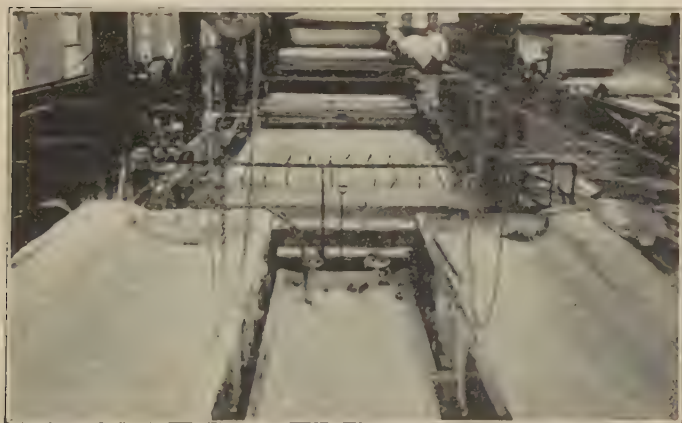
Your reading of literature will help you in your study of our world of work not so much by revealing what the vocations of to-day are as by showing how people of all times have won their places, how they have gained promotions, and how they have made important contributions to the society of their day through their vocational experiences. It is just as important for you to study this relationship of vocations and successful living as it is to study the vocations themselves.

**Periodicals and Trade Literature.** — Each vocational field to-day has grown to such large proportions that national and international *vocational magazines* are published for the workers in each major vocation. There is a surprisingly large number of these publications: farm journals and country life magazines; business journals from the great world of commerce; trade and industrial periodicals which give you many interesting close-up views of the phenomenal progress in our industries and manufacturing; housekeeping and home journals which do so much to raise home making to the modern plane of the science level and tell of the many attractive and well-paid vocational opportunities closely related to home making; and finally the professional periodicals without which no professional worker can keep abreast of the expanding science of his profession.



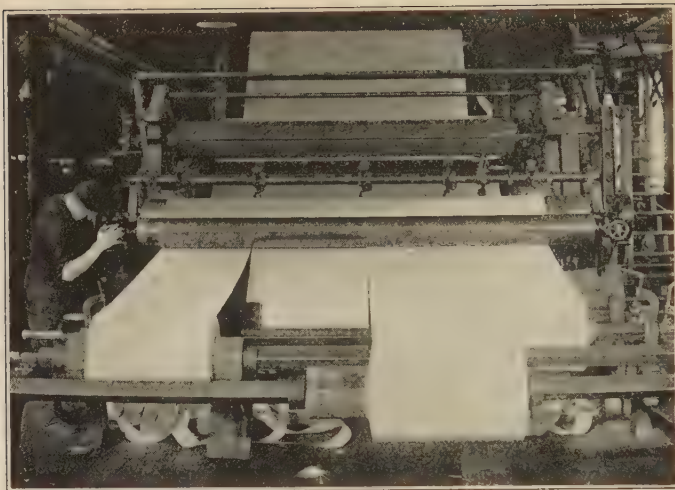
There are *more general magazines* which portray progress in all vocational fields. These are published in large numbers which prove that people to-day find it both interesting and profitable to keep in touch with the world of work. In this latter class of publications are magazines dealing with the modern world; the science periodicals describing discoveries and inventions; biographical magazines filled with fascinating stories of successful people; the current-events weeklies and monthlies telling the interesting daily happenings among people who work and serve. All of these make clear to you the steady march of progress in vocational activities. Your library, especially in the section containing the kind of reading matter discussed here, will be of much help to you in your study of vocations.

**This Textbook.** — Finally, this textbook will help you to summarize all your study and information about the five vocational fields. It will help you to discover the important requirements, the working conditions, the opportunities, and both the favorable and unfavorable features of vocations in which you are interested. Most other sources of your information are partial to one group of vocations or another. You must remember that the successful workers in each vocational field will be prejudiced in favor of their own vocation. Some day you too will be just as loyal to your chosen vocation. It is right that you should be. If you are not enthusiastically loyal to your work, it is probable that



PAPER MANUFACTURING — (1)

What would printing amount to without paper? Paper manufacturing employs many hundreds of workers on all three training levels. The first step in making paper is pictured above. The large oval tanks are called "beaters." They mix the paper ingredients and cut out and brush the pulp fibers. The lower picture shows the "wet end" of the "paper machine" itself. The "stock," properly beaten, flows against a wire screen on which the web of paper is formed.



PAPER MANUFACTURING — (2)

The paper passes through a series of drying rolls to the end of the machine, where it is cut into desired widths as pictured above. The lower picture on this page shows a section of a sorting room. (See also page 82.)

you have made a wrong choice. In the following chapters, perhaps you will be helped to discover that vocation which is to win your loyalty.

Summarizing this chapter, your sources of information and study of the world of work are:

- (1) your school courses, (2) observation, (3) lectures, (4) interviews, (5) moving pictures, (6) literature, (7) vocational journals, (8) general magazines, (9) the library, and (10) your textbook.

#### MY GUIDANCE SCRAPBOOK

##### 1. *My Guidepost*

Does the quotation at the beginning of the chapter suggest a slogan to you for your guidepost? If not, find a slogan for the study of vocations.

##### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

##### 3. *Scrapbook Suggestions*

(1) Paste in your scrapbook newspaper photographs and news items which illustrate the five vocational fields.

(2) Copy or paste a program card of your studies in your scrapbook. Place a star after each elective subject which definitely offers you vocational guidance.

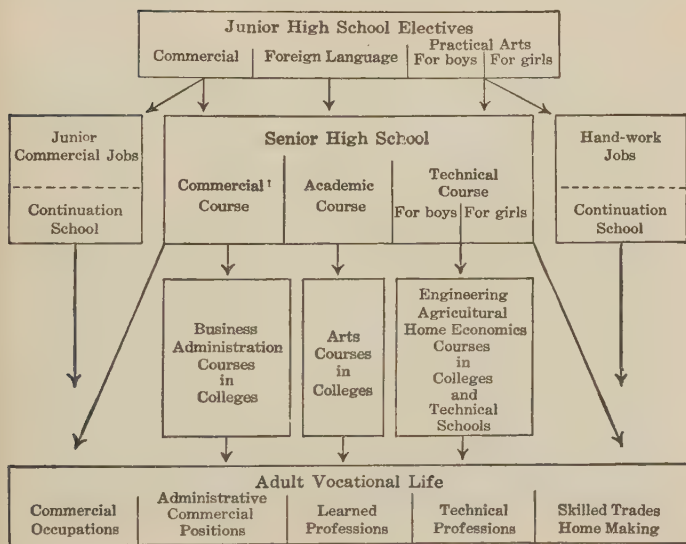
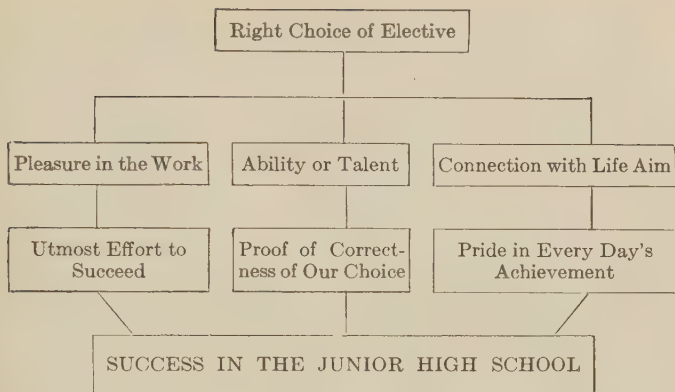
#### THINKING THROUGH

1. Imagine that you are Harry Martin. Stand before the class and make a short speech, the purpose of which is to persuade the members to avoid making the mistake of leaving school before it is necessary.
2. Explain in your own words what is meant by the statement that every day you spend in high school may be worth forty-five dollars to you.

3. Is wealth a proof of success? If not, how can one judge whether a man or a woman is successful?
4. What elective courses in your school give vocational training?
5. Are there any vocations for which it is impossible to prepare in your high-school course? What courses will lay a foundation for the further training that will be necessary in those vocations?
6. What is the difference between *seeing* and *observing*?
7. In talking with a worker in a certain occupation, by what means will you judge whether he is working at an *occupation* or at a *vocation*?
8. Choose some occupation with which you are familiar, and tell its advantages and disadvantages. Consider it from the standpoints of health, chance for advancement, working hours, vacation period, and salary.
9. How does the quotation at the beginning of this chapter apply to the contents of the chapter?

#### FIELD STUDIES

1. From your class, choose a committee which will plan two or three field trips of vocational interest in your community. The committee should arrange for such matters as permission from the plant to be visited, approval of parents and principal, transportation, class conduct, and so on. Reports should be called for from two or three members of the class after each visit. Be sure to use the outline on page 25.
2. Interview a man (or a woman) who is engaged in a vocation which interests you, and find out whether his school training helped him to prepare for the work. Talk over with him the subjects which are now taught in high schools and ask his opinion as to which ones might be of benefit to one who was considering choosing his vocation.
3. Review chapters iv, v, and vi of the first book of this series, *Our Junior High School*. Summarize the chapters and read your summary to the class. Then discuss the diagrams repeated, on the opposite page, from *Our Junior High School*.



<sup>1</sup> Pupils going on to a college business course from this course must be careful to select the required college preparatory subjects.





*Keystone View Company*



### TRYING OUT THE WORLD OF WORK

Are the boys on the right road to vocational success? Why? The girls are packing pickles at the Pittsburgh plant of H. J. Heinz Company. Is their work a job, an occupation, or a vocation?

## INTERESTING READINGS

1. *Stories and Biography*

*Fanny Herself* by Edna Ferber

*Girls Who Did* (Inez Haynes Irwin) by Helen Ferris and  
Virginia Moore

*High Benton* by William Heyliger

*Working Through at Lincoln High* by Joseph Gollomb

*When Sarah Went to School* by Elsie Singmaster

2. *Other References*

*Your School and You* (chapter viii) by Walton B. Bliss

*College—What's the Use?* by Herbert E. Hawkes

*How to Study Effectively* by Guy M. Whipple. (Compare  
with your method of study the main points given as  
paragraph headings.)

*What Shall I Be?* (chapter v) by Clayton H. Ernst



AMERICA THE BEAUTIFUL  
"O beautiful for spacious skies,  
For amber waves of grain,  
For purple mountain majesties  
Above the fruited plain!"

— KATHARINE LEE BATES

# PART I—THE FIELD OF AGRICULTURE

## CHAPTER IV

### PLANT AND ANIMAL HUSBANDRY

*With hand on the spade and heart in the sky,  
Dress the ground and till it;  
Turn in the little seed, brown and dry,  
Turn out the golden millet.  
Work, and your house shall be duly fed:  
Work, and rest shall be won;  
I hold that a man had better be dead  
Than alive when his work is done.*

— ALICE CARY, *Work*

#### 1. A BROAD VIEW OF THE FIELD

**The Basic Vocation.** — Agriculture provides a family income for approximately one-fourth of the American people; it supports, through its products, all the people of the world. All other vocations are founded upon those in the field of agriculture: the raw materials which are used in industries and manufactories come from the land; business is largely concerned with the buying and selling of products raised from the soil or manufactured from farm-grown products; even home making is dependent upon food, clothing, and shelter which come originally from the soil; and the professions look to

agriculture and its allied vocations as fields for their services. You will discover in the following chapters that other vocations call for special training along some one line in industry, commerce, home making, or the professions. A successful farmer, however, must have training along several lines; he must know agricultural science, engineering, and business.

Agriculture, to be most effective, requires careful and scientific study of natural conditions. Kinds of soil, annual rainfall, climate, cost of transportation, and accessible markets are important factors in the success or failure of any one engaged in the vocation of agriculture. There is a reason why our country is divided into corn belts, wheat belts, grazing plains, cotton belts, truck-farming communities, and fruit areas. Soil, amount of rainfall, climate, freight charges, and markets account for the specialization in agriculture. In reading the following discussion of the field itself, try always to picture its related workers, who will be discussed in the next chapter.

## 2. TWO MAIN DIVISIONS OF AGRICULTURE

For our study, we may regard agriculture as composed of two large divisions: one has to do with plants, and one with animals. The first is called *plant husbandry*, and the second, *animal husbandry*.

**Plant Husbandry.** — Plant husbandry has to do with the raising of plants to produce good crops and to bring profit to the tiller of the soil. The following kinds of plant production are some of the important

branches of this first division of agriculture. A brief description of each will suggest the kinds of work done as well as emphasize the wide range of activities included under agriculture.

(a) *Forage Crops.* These include *hay*, *clover*, and *alfalfa*, raised as feed for animals. This type of plant



A VERMONT HAYING SCENE

Everybody on the farm turns to when it is time to get the hay in.  
Find out all you can about this task and its workers.

husbandry is an important activity in general farming. The crops occasionally are sold in the market, but more often are fed to the horses and cattle on the same farm or ranch where they are grown. Thus the growing of forage crops supplements some other activity which is the main product of the farm. The seeding, cultivation, and harvesting are done largely



by means of farm machines : plows, harrows, seeders, cultivators, mowers, and binders.

(b) *Cereals or Grains.* These include *wheat, corn, oats, barley,* and *rye.* They, like hay and alfalfa, are largely machine-managed crops. Corn, however, is often cultivated or hoed by hand. Grains are



*Courtesy, H. J. Heinz Company*

#### GATHERING TOMATOES

The number of workmen and the great acreage devoted to this one crop show clearly that scientific management is responsible for the results. It is evident that all three training levels are represented on such a farm.

staple food crops which form a large part of human diet, although they are also used for animal feed. Forage and grain require many acres of land to produce crops in sufficient quantity for a profit. Farm machines solve the problem of the successful cultivation of large acreage. The profit from the

sale of forage crops and grains comes either directly or indirectly from the sale of dairy products and meat.

(c) *Vegetables*. Here we have various *leaf* crops like lettuce, *pod* and *vine* crops like peas, cucumbers, and pumpkins, and *root* crops like beets, radishes, and



*International Newsreel*

#### A FREESIA FARM IN SAN FERNANDO, CALIFORNIA

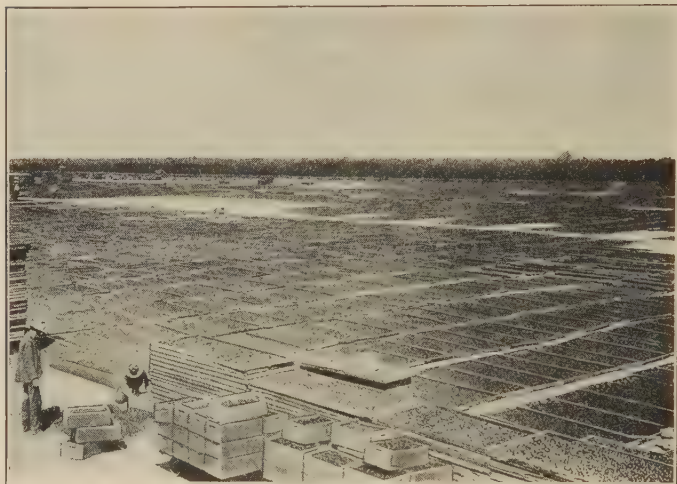
Florists the country over are supplied with the products of this farm — another evidence of the close relation between farming and business.

potatoes. Vegetables require more hand work than forage crops and cereals, and less ground. They are frequently grown in small garden patches for use on the home farm.

Market gardening or truck growing is common near cities where garden vegetables are marketed. This *intensive* form of farming involves greater labor on an acre and a smaller number of acres than the

*extensive* farming of forage crops and cereals. In recent years rapid transportation by fast express trains and auto trucks has developed great tracts of truck farms often far distant from large city markets.

(d) *Flowers*. Here we have the culture and marketing of roses, chrysanthemums, sweet peas, and



A PRUNE FARM IN SANTA CLARA, CALIFORNIA

The prunes are laid out for drying preparatory to shipment. One hundred and ten trees will produce from five to eight tons of prunes. Could such a farm be properly managed without the help of business methods?

many other flowering plants. The all-year-round demand for the beautiful flowers of florist shops requires the use on flower farms of greenhouses or hothouses, glass buildings with artificial heat. In the warm season these hothouses are supplemented by the use of outdoor gardens. Have you ever seen acres



*Bureau of Soils*

#### FORESTRY AND LUMBERING — (1)

The upper view illustrates a typical watershed. The *forester* certainly has a healthy, beauty-filled vocation. The lower picture shows a turpentine *orchard* in Mississippi. Turpentine, maple sugar, rubber, and similar products closely link agriculture, business, and industry.



#### FORESTRY AND LUMBERING — (2)

As you study these and similar pictures always let your mind fill in an additional picture of the related worker and his work. Above is a pile of wood for the paper mill. The lower picture was taken at a lumber camp in our northern woods. The wood, cut into four-foot lengths, is unloaded from the cars on to conveyer chains, which carry it up the pile. Though the paper business (page 67) is largely blamed for the consumption of wood, it is actually responsible for less than 3 per cent of the annual consumption. Railroad ties use twice as much, fenceposts three times, and approximately 50 per cent of the annual consumption is due to forest fires. Scientific forestry has room for skilled workers and trained administrators to offset such losses.



of flowering plants? In the warmer sections of the United States flowers are grown for market through the whole year. Flowers need proportionately less space but more care in cultivation than most other plants. Their production is, therefore, one of the most intensive forms of plant husbandry, and depends almost entirely on hand work.

(e) *Fruit*. This division includes the products of the blossoms of shrubs and *trees*, *berries*, *grapes*, and *orchard* and grove fruits. The fruit trees and plants on many general farms are given very little attention except occasional pruning and cultivation. But on fruit farms intensive work is done in producing a quality and a quantity of fruit which will insure a profit for the farmer.

Modern freight-car refrigeration makes it possible to ship fruit long distances. Thus the natural conditions of soil and climate and present-day methods of transportation have brought great prosperity to many large fruit regions. This intensive marketing of fruit crops offers many vocational opportunities besides fruit-farming.

(f) *Fiber, Medicinal, and Other Crops*. *Cotton*, *hemp*, *sugar beets*, *sugar cane*, and *golden seal* are some of the crops in this group. Sugar cane, cotton, and sugar beets are grown on great plantations. Golden seal and other medicinal crops require much less ground, but more care. These crops produce raw materials used in industries and manufactories.

(g) *Wood and Forest*. *Forestry* is one of the most important branches of plant husbandry. The term



*forestry* applies only to the scientific planting and production of forests, with a view to the reproduction of trees for wood, bark, mountain cover, watershed, wild-life refuges, and recreation. *Lumbering* is now usually considered a division of agriculture, though it might also well be classed as an industry. Though lumbering in many respects resembles the work of an industry, we shall class it as a phase of agriculture, because it involves propagation and care of trees. The farm wood lot usually serves for the production of firewood. The general farm also includes occasional patches of closely grown timber which furnish lumber for the owner.

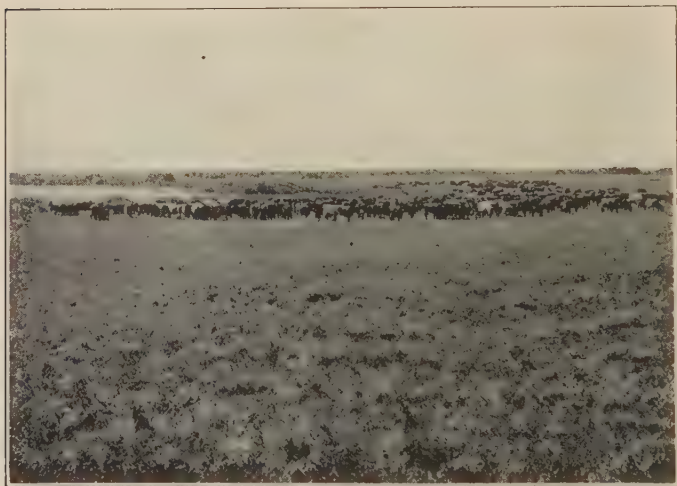
**Animal Husbandry.** — Animal husbandry has to do with the raising of domestic and wild animals for various purposes. We secure valuable *food*, *clothes*, and other *products* from certain animals. Others, like the horse, render useful *service*. The following sections discuss the several main classes of animal husbandry.

(a) *Cattle*. There are two kinds of cattle, *dairy* and *beef*. Care of dairy cattle is usually a part of general farming. Dairy farming as a specialty involves the production of feed crops, scientific feeding and care of the cattle, and sanitary control of the dairy products. Beef cattle are raised where feed may be obtained by grazing on cheap land. The western ranch has, therefore, supplied most of our beef cattle and represents a single-crop type of agriculture. The cattle ranch is often an independent



#### DAIRYING

Remember to think of the workers concerned when you study the upper illustration, a picture of a model dairy barn. The lower picture shows the bottling section of a pasteurizing plant.



#### CATTLE FARMING

*Above:* A boys' club engages in a stock-judging contest under the sponsorship of Oregon Agricultural College.

*Below:* A cattle ranch in the northwest. Remember to fill in the workers of all training levels.

community and is frequently so far distant from centers of population that it must be a self-supporting institution.

(b) *Horses*. There are in general two classes of horses — the *light* type and the *heavy*. Horses are raised on horse ranches and horse-breeding farms mostly for their services as draft animals. Occasionally horses for farm use are raised on general farms. Among the light breeds of horses we have the various saddle and racing horses, and the light-draft horses which do not draw heavy loads. In addition, horse breeders raise Shetland ponies, donkeys, and mules. The draft horse, large and slow-moving, is a powerful animal, used for heavy farm work. City draft horses to a large degree have been replaced by trucks.

(c) *Sheep and Goats*. Sheep are bred for two products, *mutton* and *wool*. Specialization in breeding has produced two types of sheep, the fine wool type and the mutton type. There are also two main types of goats. The Angora goat is raised for its *fleece*, which is long and curly and is woven into mohair, used in making coats, coat linings, and plush, and for many other purposes. There are also *milk* goats but they are not raised in large numbers in this country. Sheep raising, however, is an important and valuable part of our agriculture.

(d) *Swine*. Specialization in swine takes the forms of hogs bred for *lard* and those bred for *bacon*. There are also hogs bred to provide both products. The lard hogs are very fat, with short, stubby legs.

The bacon hogs are not fat, but have firm, hard flesh and longer legs. While most swine are produced in farms given over entirely to these animals and to raising corn and other feed for them, some are usually raised on a general farm.



SHEARING SHEEP

Job, occupation, or vocation? What training level?

(e) *Poultry*. There are four types of chicken: the *egg* type; the *meat* type; the *general-purpose* (meat and egg) type; and the *ornamental* type. In addition, we have other varieties of poultry including turkeys, ducks, geese, and guinea-fowl.

The turkey is the only domestic animal we have which is a native of America. Turkeys are raised principally for their meat, on farms given over





#### POULTRY FARMING

Remember to fill in the workers; above is a modern chicken farm;  
below, an ostrich farm in California.



entirely to the raising of turkeys, on poultry farms with other fowl, or on general farms.

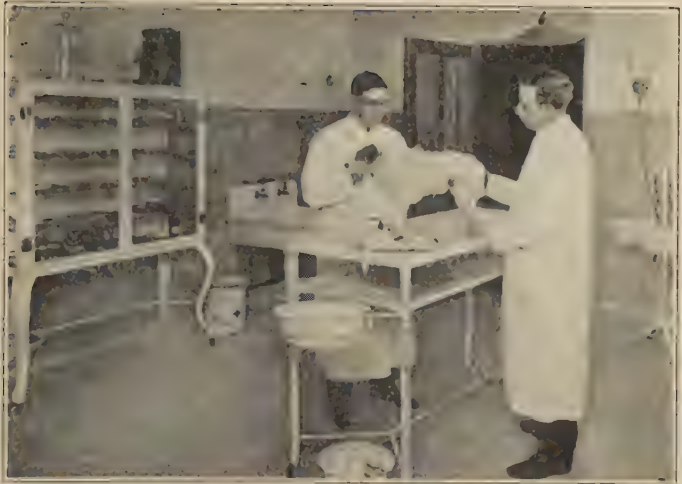
Ducks are raised chiefly for their meat, and geese for meat and feathers. Guinea-fowl are often raised on farms, but do not become so domesticated as the other poultry. They lay only where they can hide



BLUE FOXES AT LUNCH

their eggs, and in other ways are not so dependable or profitable as other kinds of poultry.

(f) *Fur Farming.* Fur-bearing animals have been the basis of a business dating from the animal-skin clothing of primitive man. Until recent years animal skins, or fur pelts, as they are called, were obtained almost entirely by trapping. To-day, however, it has been found profitable to raise such animals as *fox*, *mink*, *muskrat*, *skunk*, and *rabbits* on land



#### ANIMAL HOSPITAL SERVICE

*Above:* In the operating room of an animal hospital.

*Below:* An animal ambulance. The picture was posed to illustrate methods of entrance and exit.

suited to their needs and inclosed by fine-meshed wire fences to prevent their escape and to keep out their enemies.

It probably will take many years to domesticate the otter, the mink, and equally wild animals, but the next few years undoubtedly will develop the raising of most of these wild furry animals into one of the most interesting and profitable types of animal husbandry. At the present time this branch of farming is conducted largely by people who give their entire time to this work. The pelts are frequently very valuable; for example, the pelt of a silver fox is often sold for \$500 or more. These domesticated wild animals require close watching and care. They cannot be left to shift for themselves. Therefore, they are not usually raised on a general farm.

(g) *Pet Animals.* Almost every home in America has some kind of pet animal, a dog, a cat, a canary, a parrot, Belgian hares, white mice, guinea pigs, bantams, pigeons, and so on. You have seen bird stores and pet-animal stores. Have you ever seen dog kennels where pedigreed dogs are raised? Have you ever seen an animal hospital where sick animals are restored to health? The raising of pet animals, the selling of them, and their training and care provide several very interesting occupations in connection with pet-animal husbandry.

(h) *Fish.* The fishing occupations, like lumbering, are so extensive and depend to such a large extent upon natural supply, that they are on the border line



FISHING OCCUPATIONS — (1)

*Above:* T Wharf in Boston, one of the largest fish piers in the world.

*Below:* These men are spreading split cod out to dry.



FISHING OCCUPATIONS — (2)

Cold-storage plants are an important part of every fishing community. These two pictures show scenes in such a plant — mackerel above; hake, cod, and swordfish below.



between the agricultural and industrial divisions of occupations. However, because there has been a marked increase in the development of hatcheries, we may properly class fishing as a phase of animal husbandry.

There is as great a variety of animal life in the water as on land. It is customary, however, to divide fish into two classes — *fresh-water* fish and *salt-water* fish. Yet every one is aware of the great variety of size, shape, and coloring in different types of both fresh- and salt-water fish. Fish furnish man with food, glue, fertilizers, and a large number of articles made from their bones and skins. Naturally, each variety does not furnish all such products; articles of shark skin sell more readily than does shark flesh for food. However, fishing and fish culture provide a profitable and important field of vocational activity. The cod, salmon, halibut, swordfish, mackerel, herring, and shellfish industries will repay your special study and supply you good subjects for class reports.

**Study and Read.** — Now that we have a broad view of the agricultural division of vocations, we may turn to a brief study of farming itself as the principal illustration of what agriculture has to offer beginners in the world of work. There is not space to consider in this text each agricultural vocation in detail. For those particularly interested in other units of the agricultural division, the questions, topics for discussion, and reading references at the end of this chapter supply much material for class reports. The



work of the forester, the fisherman, and the fur farmer and all other allied agricultural vocations have been widely treated in special books. Many interesting stories have been told of each occupation, and some of you will be able to base class reports on them.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

Your wits will be put to a test to find a suitable sign for your guidepost for this lesson. Try to select one which gives some idea of the opportunities open in the field of agriculture.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) Paste in your scrapbook three or more pictures which illustrate work in the field of agriculture. Underneath each picture state whether this illustrates plant or animal husbandry, and the particular branch of the occupation.

(2) Copy in your scrapbook a short poem which describes some outdoor work in the field of agriculture.

(3) From the catalogue of an agricultural college, cut out or copy the names of ten courses offered to the students.

(4) Draw a plan for a general farm which would be possible in your vicinity. Use your originality in drawing, coloring, labeling, etc. The plan of the house and barns as well as the gardens may be included.

### THINKING THROUGH

1. What raw materials from the land are used in a paper mill? in a shoe factory? in a mill which makes cloth?
2. What specialized crop is grown in California? in Iowa? in Minnesota? in Florida? in Alabama? in your state?

3. Explain the difference between lumbering and forestry.
4. In which state would you choose to start a cattle ranch?  
What kind of location would you select?
5. What crops would thrive on a general farm in your state?  
What would you avoid planting because of climate?



*Courtesy, Forestry Service*

A FOREST RANGER

6. What crop would you raise under the following conditions:  
a great amount of rainfall? a mild climate with little danger  
of frost? a great expanse of flat land? a hilly section with  
sandy soil?
7. What can you tell about the vocational agricultural courses  
offered in the rural high schools of your state?
8. What kind of fur-bearing animal would you choose to raise  
for profit?
9. What kinds of factories would you be likely to find near a large  
fishing port?

## FIELD STUDIES

1. On your next convenient holiday, go out with your camera or sketchbook and make pictures which will illustrate one of the many divisions of agriculture. These will be excellent pictures to paste in your scrapbook.
2. The seal industry in the field of agriculture is one little known but very interesting. This is chiefly controlled by the United States through its ownership of the waters off the Pribilof Islands in Alaska. Make a special report to the class based on material you may find in the library concerning this industry. If possible, ask the librarian to loan you pictures which will serve as illustrations for your talk.
3. Report fully on one of the special-crop farms. The library will help you secure material.

## INTERESTING READINGS

1. *Stories and Biography*

*Famous Men of Science* (John James Audubon) by Sarah K. Bolton

*Under the 4-H Flag* by John F. Case

*Riders of the Purple Sage* by Zane Grey

*Heroes of To-day* (John Muir, John Burroughs) by Mary R. Parkman

*The Boy with the U. S. Foresters* by Francis W. Rolt-Wheeler

*Stories of Luther Burbank and His Plant School* by Effie Young Slusser

*Careers* (Farming, as told by Dan Casement to Esca G. Rodger)

2. *Other References*

*Studies of Occupations in Agriculture* by Frederick J. Allen

*Making the Farm Pay* by C. C. Bowsfield

*The New Business of Farming* by Julian A. Dimmock

*Products of the Soil* by W. F. Rocheleau

*Agriculture, Forestry, and Animal Husbandry* (in *Vocations in Industry* series) by May Rogers Lane



## Luther Burbank

Luther Burbank was born and brought up in the little New England town of Lancaster, Massachusetts, where he spent most of his spare time putting about his mother's flower and vegetable gardens. From early boyhood he seemed to understand the secrets of nature; plants flourished under his care.



His first marked success as a plant breeder occurred when he produced from seed a new potato, better than any other on the market. With the \$150 which he received from selling his discovery, he went to California to carry on his experiments in a more favorable climate. His life work was definitely settled — he was to serve the world by producing better food in greater quantities. Money never tempted him; he was imbued with the spirit of service.

Burbank did much to improve trees, grasses, and grains. He produced grapefruit without seeds, plums without stones, quinces with a flavor of pineapple, and white blackberries. But he was careful not to spend time on merely freakish products. If his experiments did not point to some product useful to humanity, he discontinued them. Always his aim was to benefit mankind by plant improvement.

## CHAPTER V

### THE WORKERS IN THE FIELD OF AGRICULTURE

*The man who by his labor gets  
His bread in independent state,  
Who never begs, and seldom eats,  
Himself can fix or change his fate.*

—PRIOR, *The Old Gentry*



A GENERAL FARM

#### 1. THE FARMER AND HIS WORK

**Two Types of Farmers.** — In the preceding chapter we made a study of the general types of *work* in the field of agriculture. In this chapter our problem is to study the *worker* in the same field. It is not



enough for us to know *what* work is done in each vocational field; we must also try to discover in a general way *how* the work is done, *who* is best qualified to do it, and *why* certain qualifications are usually essential to success in each field.

The farmer is either a *general farmer* or a *single-crop farmer*. The general farmer produces a variety of



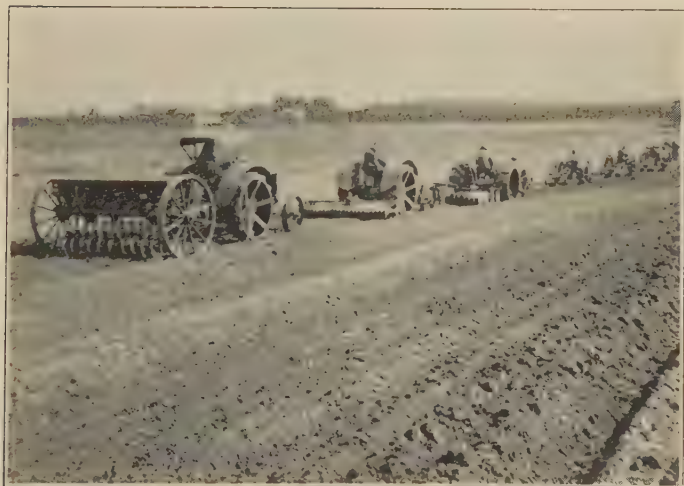
THE PRIMITIVE PLOW

crops, while the special farmer confines himself chiefly to one crop because of favorable soil, climate, and market conditions. The single-crop farm increases both the risk of failure and the chances of large financial return. The routine duties of the two types of farmer are much the same. Whatever the type of the farm, we may be sure that it employs workers on one or more of the three training levels.

**Machinery on the Farm.** — The modern farmer has found it very profitable to use machinery in his



*Bureau of Soils*



*Ewing Galloway*

### PLOWING FIFTY YEARS AGO AND NOW

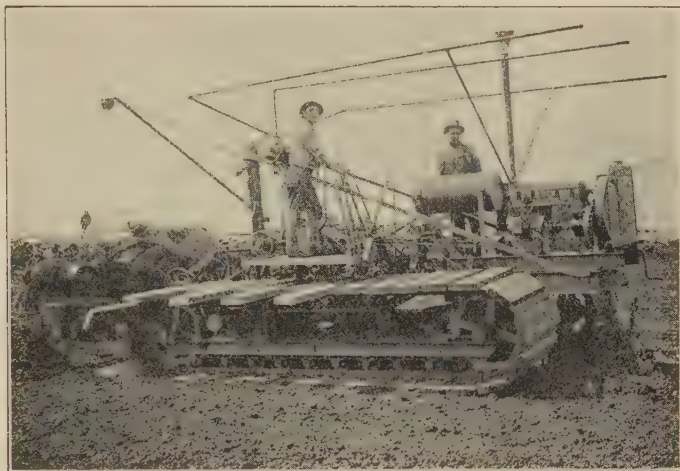
These pictures and that on the opposite page show clearly the progress in farming. To-day the gasoline tractor is the farmer's most useful servant. Here in the lower picture we see one drawing a string of machines which plow, cultivate, and seed the soil in one circuit of the field. There is no doubt concerning the existence of the three training levels on this New Jersey farm — superintendent, foremen, laborers, all are needed.

work. Because of the many important tasks which his machines perform, it is up to the farmer to be enough of a mechanic to keep the machines in working order and get a maximum return from his investment. He needs to learn what makes the machines go and how to keep them in repair that they may be kept going. Too often, failures in farming result from careless use of farm equipment. The carelessness is due more often to ignorance than to laziness, so if you are interested in becoming a successful farmer, you must study some of the principles underlying the control and care of machinery. Either by experience or by training in an agricultural school or college, the successful farmer learns how to take as good care of the farm machinery as he takes of the livestock or soil products.

**Farm Engineering.** — There are also various engineering problems on a modern farm, such as problems of water supply, drainage, and irrigation, all of which require that the farmer combine some knowledge of mechanical, civil, and sanitary engineering with his skill as a crop producer. Farmers also have to be road builders because trucks and other heavy machinery must be moved about on the farm and the farmer must have his own road to the main highway. These farm roads require repairs and upkeep just as do the roads of a city or town.

The successful farmer must likewise be a carpenter and mason. Lumber and concrete are as large a part of modern construction on a farm as they are in

modern city building. The modern farmer should know, therefore, how to mix cement, the proportions of cement and sand or gravel for various uses, the building of framework for concrete structures, and the laying and surfacing of the mixtures. At times when other farm work is slack, the enterprising



A CATERPILLAR DITCHER

*Ewing Galloway*

This machine is reclaiming Everglades land in Florida, by digging drainage ditches.

farmer can save money by using his spare time to construct walls, cement steps and walks, silos, watering troughs, cement floors in barns and stables, and the many other concrete structures which add to a farm's permanent value.

**Electricity on the Farm.** — Many thousands of farmers have installed electrical plants which supply

their homes and buildings with light and power, thus removing the inconvenience and drudgery attached to cruder methods. Electricity, generated on the farm or supplied by a power company, converts a farm into a modern institution, lightens the labor of the farmer and his wife, increases the use of machines,



AT PASTURE

This is another phase of dairying. See page 85 again.

and puts the farm into telephone and radio communication with the outside world. It is important, then, that the farmer have some knowledge of electricity and of its most effective use.

**The Single-Crop Farmer.**<sup>1</sup> — There is a wide range of specialized farms in both plant and animal husbandry. This class of farms is usually referred to as

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<sup>1</sup> The workers in allied vocations such as fishing, lumbering, and forestry should also be considered here by means of class reports supplementary to those which may have been prepared in the work of the previous chapter.

single-crop farms, most of which can be operated by women as well as by men. Poultry raising and bee keeping are well adapted to women because of the lightness of the manual labor required.

It is not certain what proportion of the 6,200,000 and more farm owners and operators in the United States should be considered single-crop farmers. The difficulty in making an accurate estimate lies in the fact that many single-crop farms must produce other crops besides the main crop. The dairy farm, for example, must raise crops of hay, grain, or other fodders for feed. It is probable, then, that not more than a million farms specialize in one crop. The following products are examples of the single crops to which some farms are principally devoted :

#### PLANT HUSBANDRY

- |                  |   |
|------------------|---|
| 1. Corn          | 9. Landscape plants and trees (nursery) |
| 2. Wheat         | 10. Forestry trees (nursery)            |
| 3. Oats          | 11. Fruit trees (nursery)               |
| 4. Potatoes      | 12. Flowers                             |
| 5. Beets (sugar) | 13. Berries                             |
| 6. Sugar cane    | 14. Medicinal herbs                     |
| 7. Cotton        | 15. Vegetables (truck farming)          |
| 8. Tobacco       | 16. Fruit                               |

#### ANIMAL HUSBANDRY

- |                              |   |
|------------------------------|---|
| 1. Cattle for dairy products | 8. Fish   |
| 2. Cattle for meat products  | 9. Family pets  |
| 3. Horses                    | 10. Rabbits   |
| 4. Sheep                     | 11. Bees  |
| 5. Swine                     | 12. Miscellaneous (ostriches,<br>alligators, rattlesnakes,<br>etc.) |
| 6. Poultry                   |   |
| 7. Fur-bearing animals       |   |



**The Work of Single-Crop Farms.** — The work of single-crop farmers varies with the nature of the crop. The corn grower has decidedly different work from the apple orchardist, though both are concerned with soil fertilization and cultivation, plant diseases, insect pests, storage and marketing of product, and the business details of management. Their problems, in turn, vary much from those of the fur-farm specialist. There is wide difference even in the requirements within the specialized farms. In the case of fur farms, for instance, a mink or muskrat farm may demand a hundred acres of swamp and stream inclosed in heavy fine-meshed wire sunk several feet in the ground, while a fox farm may demand only an acre of dry land inclosed with heavy fine-meshed wire fence, topped with several strands of barbed wire.

The dairy farmer must largely govern his hours of work by the habits of his cattle. On the other hand, the silver fox farmer must arrange day and night shifts, alternating with a partner or trusted employee, to protect a few high-priced silver foxes from other animals or from thieves. Practically no two single-crop farms require just the same work, though they have many common features.

**Single-Crop Farming as a Vocation.** — Single-crop farming increases efficiency and consequently profit because of its specialized knowledge and experience. It provides an out-of-door vocation in the climate desired ; close association with the kind of plant or animal life which appeals to one's special

interest ; more freedom than with most occupations in the choice of location according to one's love of settled communities or of wild places ; and, particularly, independence in the conduct of one's business.

Income varies greatly from year to year on the same single-crop farm. A year of total loss may be followed by a year of very large profit, even equaling or exceeding the original cost of land and equipment. Thousands of these farms undertaken in anticipation of a dependable income are abandoned each year because of a temporary disappointment caused by crop failure or loss. Usually the single-crop farm operated for a period of consecutive years can be made to yield a satisfactory average annual income.

**Success in Single-Crop Farming.**—Each single-crop vocation is based on the science of plant or animal life and is a business, in which success depends upon the extent of training and practical experience of the operator in the special field. The chances for success are accordingly much increased when the vocation is raised from the skilled to the science level. On the other hand, there are single-crop farmers who have achieved a high degree of success without college training because they have been willing to pay the price of hard, grinding effort to secure the needed training in the science and business of the vocation. Young people, however, who desire to enter this vocational field should seek the specialized training afforded by an agricultural high school or college.

## 2. THE WORK OF THE AGRICULTURAL SPECIALIST

**The Specially Trained Agriculturist.** — It is safe to estimate that not more than one agriculturist in twenty is trained in an institution for higher education. It is equally safe to say that upon this one is dependent in very large degree much of the future progress of this largest and most important vocational field.

New discoveries in plant and animal life, new varieties of plants and improvements which increase their worth as food, progress in the breeding of animals, improved methods of production and marketing of products in both plant and animal husbandry are for the most part dependent upon the originality and the training of this small group of graduates from agricultural schools and colleges.

**The Government Specialist.** — In preceding pages there have been occasional references to the highly technical nature of successful agriculture. Our federal and state departments of agriculture have been very useful in serving this important development. Frequently various parts of the country are scourged with plant or animal pests or diseases which local farmers or farm associations are unprepared to combat. These departments have done and continue to do much to offset and reduce the tremendous losses due to the boll weevil, the Japanese beetle, the cattle tick, and the potato beetle.

Our government specialists also coöperate to protect both our health and our lives by food inspection.

The great canning and meat-packing industries are under the close inspection of government food specialists; other sources of our food supplies are in the same way subject to government inspection. These instances of government coöperation with agriculture and allied industries will give some idea of the many services rendered by government specialists, many of whom are workers on the skilled level.

Naturally the work of these government experts is as highly specialized as the vocation of agriculture itself. The work which they do may be divided into the following classes. This classification, however, does not indicate the many subdivisions into which each group is still further divided :

- |                      |                                      |
|----------------------|--------------------------------------|
| 1. Soils             | 8. Agricultural engineering          |
| 2. Fertilizers       | 9. Farm accounting                   |
| 3. Plant diseases    | 10. Coöperative buying and marketing |
| 4. Animal diseases   | 11. Rural social life                |
| 5. Food inspection   | 12. Forestry                         |
| 6. Plant production  | 13. Fisheries                        |
| 7. Animal production | 14. Irrigation                       |

The work of each group often includes laboratory studies, farm surveys, lectures before farm organizations, and participation in conferences with individual farmers or committees. Vocations in departments of agriculture offer employment for the entire year, are on the two higher training levels, involve shorter hours than those of the farmer except when much traveling is done, and are increasingly important because agriculture is becoming an increasingly scientific vocation. The specialist has good oppor-

tunities for advancement, associates with people who rank high in the field of agriculture, and usually may live at home.

Physical strength is not so important a qualification as in other agricultural work. The studious type of man or woman interested in research study of plant and animal life finds this type of agricultural work more to his or her liking than do other types of people interested chiefly in the active business of farming or fishing or forestry. The boy or girl expecting to prepare for this type of work should maintain high records in science study and in laboratory work and should plan to give at least four years to technical training in a higher institution.

**Summing Up the Facts.** — Agriculture as a vocation offers opportunities, good health, wholesome environment, fair financial returns, and independent living. Agriculture, on the science level, requires several years of practical experience and not less than a two-year course in an agricultural school or college, preferably a four-year course. You have already learned that the alternative to this educational training in schools is the long up-hill fight to educate one's self. The best training for the vocation of agriculture on the science level is an early life on a farm followed by graduation from an agricultural college. Young people who have had this early training on a farm should think carefully before they sacrifice this advantage through a decision to enter some other vocation.

No environment offers as great educational training for both boys and girls as farm life. It provides opportunities for practical experiences in more trades, in a greater variety of home-making training, in more outdoor and household science, and in more kinds of engineering projects than are to be found even in the best-equipped junior and senior high schools. These practical experiences are often as valuable a part of a boy's or girl's education for vocational careers in city life as they are for vocations in farm or country life.

#### MY GUIDANCE SCRAPBOOK

##### 1. *My Guidepost*

This time, select a sign which will point the way by which you can, if you do your part, reach the top of the ladder in the field of agriculture.

##### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

##### 3. *Scrapbook Suggestions*

(1) Paste in your scrapbook such pictures as you can find which illustrate any of the special-crop farms you have learned about.

(2) Obtain pictures illustrating some of the modern types of machinery which are used on farms. (These may be found as advertisements in a farm journal or will be furnished in the catalogue of a manufacturer of such machinery.)

(3) On an outline map of the United States, indicate, by using different colors which are explained by a key, the general location of the principal crops of the country. Paste this in your scrapbook.



(4) Look through two or three recent newspapers and cut out clippings which tell news of farming or the work of farmers. Paste them in your scrapbook with a comment or two of your own under each.

### THINKING THROUGH

1. Choose a partner in your class and, with his coöperation, arrange a dialogue between two imaginary farmers, one who has had years of practical experience but no technical training, the other a recent graduate of an agricultural college. Let them discuss the value of their respective training. Then, with your partner, present this dialogue to your class.
2. What single-crop farms could be managed by women? On which would they be less likely to succeed?
3. How would you prepare yourself for a position as manager of a sheep ranch?
4. Under what conditions is irrigation necessary on farms? What kinds of crops often require irrigation? Describe the process.
5. If you were planning to become a farmer, why would you benefit by study in an agricultural course?
6. Explain why enterprising farmers should have some knowledge of each of the occupations discussed in the text.
7. Why should our state and federal governments include agricultural specialists in their organizations?
8. What insect pests have to be fought by the corn grower? the potato farmer? the cotton grower? How are these pests destroyed?
9. In what way can the social life of the farmer and his family be improved? What is actually being done along this line at the present time?
10. Discuss the effect of the radio upon the farmer.

### FIELD STUDIES

1. Either by talking with successful farmers, by reading agricultural magazines, or by library research, find out the various kinds of farm machines which have taken the place of men

and horses. Tell also how these machines should be cared for. Use the pictures which you got for your scrapbook to illustrate your talk to the class.

2. Find out what work has to be done in raising bees. What would be the requirements for one undertaking this vocation? What are its advantages and disadvantages?
3. If there is a fruit farm in your vicinity, visit it and interview the owner or manager. Find out how many acres his farm covers; the different varieties of one fruit he raises; how many workers he employs; in what months his workers are busiest and why; exactly what their work is; and what dangers of failure he is up against. Examine his facilities for packing and shipping and make a complete report to the class.
4. With the help of your library, find a number of medicinal herbs which are raised for use in present-day medicines. Also, you will be interested in reading about some of the old-fashioned methods of healing by using plants and herbs.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*Tom of Peace Valley* by John F. Case

*Girls Who Did* (Charlotte Cowdrey Brown) by Helen Ferris and Virginia Moore

*Overcoming Handicaps* (John Davey) by Archer Wallace

*Merry Andrew* by Florence R. Weir

*The Boy with the U. S. Explorers* by Francis W. Rolt-Wheeler

*Story of Agriculture in the United States* by A. H. Sanford

##### 2. *Other References*

*Studies of Occupations in Agriculture* by Frederick J. Allen

*Uncle Sam's Modern Miracles* by William A. Dupuy

*Agriculture, Forestry, and Animal Husbandry* (in *Vocations in Industry* series) by May Rogers Lane

*Fields of Work for Women* (chapter xvii) by Miriam Simons Leuck

*Construction and Repair Work for the Farm* by F. Theodore Struck

*The Farmer and His Friends* by Eva M. Tappan



*Fatchild Aerial Surveys, Inc.*

# CENTERS OF COMMERCE

"O beautiful for patriot dream  
That sees beyond the years  
Thine alabaster cities gleam  
Undimmed by human tears!"

— KATHARINE LEE BATES

## PART II—THE FIELD OF BUSINESS

### CHAPTER VI

#### THE WORK OF BUSINESS

*For Commerce, though the Child of Agriculture, fosters his parent,  
who else must sweat and toil and gain but scanty fare.*

— WILLIAM BLAKE

#### 1. THE BEGINNINGS OF BUSINESS

**The Birth of Business.** — Business is older than civilization ; it is as old as the prehistoric races of men. The first exchange of two simple possessions, a stone hatchet for an animal skin, between two cave men may have marked the birth of business.

Imagine two shaggy youths of the Stone Age, each armed with a stone ax as they tread noiselessly on the carpeted paths of the forest. The muffled moaning of the wind comes to their ears from the great treetops a hundred or more feet above their heads, and mingles with the other voices of the forest life. Despite the confusion of soft sounds which surrounds them, their sharp ears detect instantly the snarls of two wild animals in sudden conflict. The two lads wheel in the direction of the combat, steal unheard upon their animal foes, and kill them with heavy blows of their axes. With shouts of victory they return to their tribe and soon begin to exchange

pieces of meat for forest fruits which others have gathered and offer the animal skins for crudely-fashioned flint tools.

In some such manner, business began as *barter* — direct exchange of one commodity (article of value)



*Underwood and Underwood*

#### THE PURCHASE OF MANHATTAN ISLAND

What shows that this purchase was made by barter? See if some of your history reference books confirm the artist's interpretation. Report to the class.

for another. As soon as men discovered how to train wild animals to work for them, and learned how to grow crops for their food, they began to settle in places which became their permanent homes. Then came the desire to own land and to have others recognize this ownership. Men began to exchange ownership of land for tame animals. They bartered the products of their land for the products of the forest

and the stream. Out of this bartering arose the need for records of exchange and ownership. Such records of trade are found on the clay tablets of Babylon and other cities of civilizations which were ancient even in the days of the Roman Empire.



*Keystone View Company*

IN THE UNITED STATES ASSAY OFFICE, NEW YORK CITY

Whenever gold is shipped into the country from abroad in order to establish trade balance, it is weighed in the U. S. Assay Office.

**Mediums of Exchange.** — Barter at its best was a cumbersome method of trade, and so in the development of business it was natural that people should adopt some valuable article as a standard by which the values of all kinds of articles could be measured. It was even more natural that this standard article should become accepted as a *medium of exchange*, in



other words, as *money*. This need for a convenient medium of exchange led to the use of many different articles as money.

Nowadays we think of money as gold and silver coins, and of paper money as representing them. But for centuries money was anything which could be made a medium of exchange in *buying and selling*. To different people in different ages many things have served as money, among them oil, wine, skins, cattle, tobacco, wampum, salt, rice, tea, dates, ivory, and precious stones. Metals finally replaced all other articles for use as money, and gold and silver have replaced most of the other metals thus used. At first the gold and silver were weighed in bulk, so much gold for such and such an article, but this method took so much time that the metals were made into coins of various sizes and values. The earliest known coins were made by the Lydians in Asia Minor during the seventh century B.C.

**Business To-day.** — The development of records of exchange (deeds, mortgages, receipts, etc.), the establishment of common mediums of exchange (gold and silver money), the keeping of business accounts, the establishment of permanent places like markets and stores where trading takes place, and the organization of a system of credit (bank control of money) are all parts of our great modern vocation of business. Trade is now conducted not only between individuals, but between large groups of people, even between people of different nations. In a sense, all

vocations belong to the field of business because each has to do with the buying and selling (the exchange) of goods or services.

However, business (trade or commerce) as a unit of vocational study is limited to occupations having to do with the handling of money and the exchange of goods only. Our study of this vocational field will have to do, then, with the operations of buying, selling (retailing, advertising, and wholesaling), office work, and allied occupations.

## 2. THE BUSINESS OF BUSINESS

**Specialization in Business.** — The exchange of goods between producer and consumer and the business management of the process have become so complex that there are now many specialized operations which were uncalled for in the early days of trade. This specialization has developed many vocations which fifty or even twenty-five years ago were unknown. For example, in the distribution of farm products there is now usually a *broker* who buys all of a farmer's grain or fruit. He sells to a *wholesaler* or *jobber*. The broker and the wholesaler both take their profits and the farmer receives only a part of what the consumer pays. Production and manufacture are on such a vast scale to-day and the consumers are so numerous and scattered that the great quantities of goods which must be handled require the services of brokers and jobbers. It is usually impractical for the farmer and manufacturer to deal directly with the consumer or even with the retailer.



### TWO TRAINING LEVELS OF SELLING

Pictures like the upper one must be made at a time when they will not interrupt business, and so you will have to fill in the workers for yourself.

Retail distribution direct to consumers has also in recent years been much specialized. There are, in general, three types of retail organizations: first, the *special store* like a grocery, a meat market, a clothing store, or a drug store; second, the *department store* which includes many departments under one management, usually within one building; and third, the *chain store* which is a member of a system of like



AN AËRIAL ADVERTISER

Equipped with huge letter frames on the under surface of the lower wings, this plane has introduced the latest phase of illuminated night advertising.

stores, handling similar goods, purchased and distributed by a central management. Each new development succeeds in proportion as it reduces the cost to the consumer. Any business system which brings goods to the consumer at less cost is likely to become financially successful. Consumers always have demanded and always will demand goods at the lowest possible profit to producers and distributors.

*Advertising* is really a highly specialized form of selling which connects producer with consumer and

frequently creates demands where none formerly existed. It will remain a permanent vocational opportunity in business because "it pays to advertise." Newspaper and magazine advertising, mail circulars and booklets, and many other kinds of advertising offer vocational openings which a few years ago did not exist.

**Business Methods.** — Much of the retail merchandise of to-day is sold on *credit* (installment plan and charge accounts). What was looked upon a generation ago with disfavor as an unwise method of payment is now generally accepted as an approved form of business transaction. Retailers, wholesalers, brokers, jobbers, manufacturers, and farmers make large use of credit aids. Naturally, this has increased the clerical work connected with business transactions so that the business office has undergone equally extensive changes. Typewriters, adding machines, improved filing cabinets, dictaphones, and a hundred and one similar devices bear witness to the complicated activities of the modern business office.

**The Business Training Levels.** — Sales methods, stock control, and clerical and overhead expenses demand efficiency in the modern business office. So many and varied are the occupations thus opened up in the field of business that space in this text is sufficient to outline only the common types. These typical positions will suggest others which should be considered by means of class reports.

As in the other vocational fields, the several levels

of training are represented. Every division of business includes places for the little-skilled, the skilled, and the highly trained workers and, of course, opportunities for advancement occur as one makes the most of himself. Here, as elsewhere, the lower training levels serve as effective and convenient stepping stones to the higher levels.

### 3. THE BUSINESS OF BUYING

**The Vocation of Buying.** — Approximately half of our adult population is wholly or partly engaged in the occupation of buying. To illustrate, agricultural production is partly dependent upon other closely allied enterprises: seed houses, wholesale and retail implement and machinery dealers, fertilizer and agricultural specialty houses. Farmers do their buying from these *dealers*. The latter in turn buy from a great variety of industries. The industrial plants contain their own buying departments for purchasing raw materials from the *producers*: cotton, wool, metals, and the countless other materials used in industry and manufacturing. One industry buys from another such finished products as machines, tools, locomotives, trucks, and so on. Thus, there is an endless chain of buying which runs through all fields of work.

In mercantile houses the common practice is to maintain a buying or purchasing department with expert buyers who devote their entire time to procuring stocks of goods. Buying is also an important factor in the successful operation of the vocation of



home making. Housewives are adopting the systematized *budget* plan of controlling their purchases. Buying is an essential part of the management of orphanages, asylums, sanatoriums, hospitals,



A JEWELRY REPAIR SHOP

This is one department of a large jewelry store but it serves to illustrate the interdependence of the vocational fields. Notice the machinery, the tools, the ventilators, the chemicals — all produced from raw materials — and bought for this industry from other industries.

penitentiaries, hotels, and restaurants. In such establishments expert buyers are often employed to make all purchases.

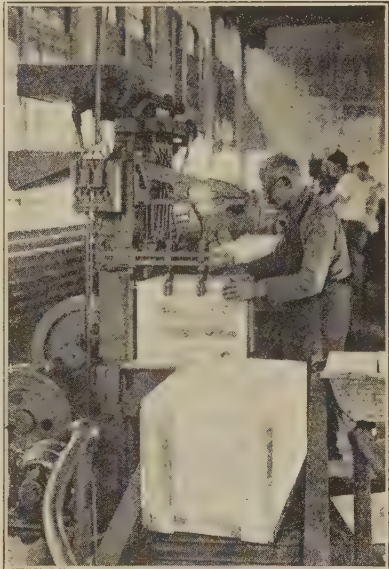
**The Range of Buying.** — Buying gives employment to many persons in all parts of the world. It provides the housewife with spices from the Orient, fruit from South America, Florida, or California, coffee

from Brazil, sugar from Cuba, and fish from Alaska. She may clothe herself with silks from Japan and furs from the Bering Sea. When you realize that all the buildings packed so tightly together in our cities, all the goods packed in turn into each building, all the equipment and stock of stores, everything in our houses, even the trees and plants on the streets, and the very ground itself on which these buildings and stores stand, represent buying not once but several times, then you can begin to understand what an important part buying plays in the world.

### Occupations Related to Buying.—

Other departments closely related to

the purchasing departments of industries and stores offer work on both lower training levels, and may lead to work on the science level. These departments are the *receiving* and *shipping* departments and the *stock rooms*. In the first there are *receiving*



General Electric Company

#### IN THE SHIPPING ROOM

This automatic nailer makes quick work of joining the shooks.

*clerks* who check shipments against original orders and guard against shortage or damage in transit. *Shipping clerks* check goods with purchasers' orders, prepare inspection slips which are inclosed with the goods, and see that the goods are sent out for delivery. *Stock-room clerks* examine goods for both quantity and quality, and store the goods in store-rooms ready for distribution.

**The Buyer.** — Practically every article we purchase has gone through the hands of some one who makes buying a vocational career, and many of our purchases have passed through the hands of several expert buyers. The expert buyer must know what will sell, must study the market so that he may buy at the lowest price, and must be able to predict how long goods purchased at wholesale will remain in stock. He must also be able to determine what is even more important — the quality of the materials and workmanship which have entered into the production of the goods. He must watch closely the sales of his department. Upon him depend the vital decisions of what, when, and how much to buy.

**The Buying Staff.** — The positions of buyer vary with the nature of the business or the industry. Buyers in industries are usually distinguished by the name of *purchasing agent*. In either case, there may be one or more assistant buyers or purchasing agents, and staffs of clerks organized into a special buying department. A buyer in retail business may purchase for all the branches of the business, for a few

closely related branches, or for only one branch of the store. In the latter case, a store may have several buyers each of whom is an expert in a special branch of the store. These buyers must keep in close personal touch with wholesale houses and manufacturers, both in this country and abroad. The positions, accordingly, often involve much travel.

**An Important Position.** — The position of buyer is usually one of the highest in a business organization, won through a series of promotions earned by years of work, or much more rapidly by those who can add technical training to experience. The education required varies according to the nature and size of the business. At least high-school education will be demanded. The increasing number of students in technical engineering schools and colleges is now making it possible for employers to demand high standards of educational training for the positions of buyers and purchasing agents.

Buying offers very favorable working conditions in safety, health, social surroundings, salary, and opportunities of promotion. The buyer is usually one of the best-paid workers among business executives. The income varies with the size of the business and the experience and training of the buyer.

#### 4. THE BUSINESS OF SELLING

**The Vocation of Selling.** — Approximately two million people in the United States are engaged in the occupation of selling. Their number about equals that of those engaged in the professions. Salesmen find

customers for the goods which eleven million workers in agriculture and seventeen million in industry produce. In other words, two million salesmen sell what twenty-eight million workers produce. You



*Keystone View Company*

#### A PROVISIONS SALESMAN

Mr. Dreyer started in at sixteen years of age, selling fine provisions to patrons of his Washington Market, New York City.

canvassers before the latter can sell to customers and to homes. Wholesale salesmen often conduct their business at the wholesale plant, but the major part of selling at wholesale is done through *traveling salesmen*. These salesmen are generally known as *field agents* because they do more than

are familiar with *sales people* in retail stores, grocery stores, department stores, five and ten cent stores, and drug stores. You are familiar, also, with another type of salesmen, known as *canvassers*, who call at your door to sell washing machines, books, toilet articles, and similar household goods.

#### Field Agents.—

*Wholesale salesmen* must sell goods to retail merchants and



merely take orders for goods. They represent the wholesale house, the factory, or the industrial plant among retail dealers. They explain methods of manufacture, quality of goods, price terms, and discounts. They explain selling campaigns and methods of advertising, and in a number of ways assist retail merchants to dispose of their goods. They carry from merchant to merchant news of the trade and so create new opportunities for business relations with their organizations.

The majority of traveling salesmen are located permanently in cities distant from the home office or factory and are assigned definite territory within which they operate. They, therefore, come to have very close personal relations with the retail merchants in their territories. The more successful salesmen are often put in charge of branch offices or branch wholesale stores and supervise the traveling salesmen assigned to their branches. From branch office or store management, they may be promoted to yet more responsible work in the home office.

**Special Types of Salesmen.**—Another kind of salesman is the *foreign sales representative*. These representatives not only must be expert sales people, but must also know the languages and customs of the countries they visit. They must provide their employer with information concerning the types of goods best adapted to these foreign countries, what methods of packing and shipping are best, and what competition must be met.



Still another group of salesmen specializes in the constantly growing fields of *insurance* and *investment*. These fields include the insurance agent, the stock and bond salesman, the real-estate salesman, and other types of investment representatives. You see, then, that the business of selling covers as wide a range of interests as does that of buying.

**The Rewards of Selling.**—Salesmanship offers opportunities for many pleasant associations and provides a broad insight into the field of business. Thus it is a liberal education in the life of the world and its people. Many persons who are adapted to salesmanship by nature and temperament would find in another vocation neither the success nor the happiness in their work which they find in the vocation of selling. Incomes in the vocation of selling depend upon the thing sold and the ability, experience, and training of the salesman. A sales person in a department store may make less than sixteen dollars a week and perhaps at thirty or forty years of age may make no more than twenty-five. On the other hand, another salesman or saleswoman in the same store who has mastered the secrets of successful salesmanship may with both salary and commissions make several thousand dollars a year. In other lines of selling—insurance, bonds, stocks, or real estate—incomes will vary from small earnings to many thousand dollars a year.

**The Modern Salesman.**—The salesman's study of undeveloped markets and of improvement in

## Alice Foote MacDougall

Alice Foote, born in an atmosphere of wealth and culture, was educated by governesses and in private schools in New York City. Her mother believed that girls should be true home-makers, so Alice spent a great many happy hours in the kitchen helping the cook. Alice had an active imagination and delighted to play "store" by the hour. Curiously enough these two pastimes of her childhood were prophetic of her later years.

Alice's later girlhood was spent in comparative poverty, as her father lost all his money in a business venture. After her marriage to Alan MacDougall, circumstances were somewhat improved. But misfortune came her way again when she



*Keystone View Company*

was left with three small children to support. At first she earned what she could by sewing, singing, making preserves, and doing other odd jobs, but these brought in very little money.

Then, at the age of forty, almost desperate, with only \$38 capital, she broke into the business world and began to sell a particularly delicious brand of coffee. Her business, very modest at first, grew steadily and finally enabled her to open a shop in the Grand Central Station in New York City, where she sold dainty packages of her coffee and also Italian pottery. This developed into a little coffee shop from which issued the tantalizing odor of freshly made coffee and hot waffles.

In time Mrs. MacDougall prospered sufficiently to open several other coffee houses and restaurants throughout the city. Her courage in the face of despair was responsible for her success.

manufacturing processes and in finished products is invaluable training for higher administrative positions or for the establishing of one's own business.

Education gives one a better understanding of other people. Educated salesmen, especially those who have had courses in psychology (the science of the way people think and act), develop unusual ability to work successfully with people. Such ability not only helps the salesman to avoid misunderstanding with his customers, but also frequently helps him to anticipate his customers' desires and judgments. To the modern salesman, salesmanship means more a matter of dealing with people than of selling goods. Therefore, the science level of salesmanship includes both the *science of selling*, which is technical knowledge of goods, and the *art of selling*, which is a knowledge of psychology, the art of understanding people.

In all these special fields of selling, a person should have marked fitness for the work, such as unusual power of salesmanship and positive liking for venturing upon uncertain but stimulating possibilities of earning a livelihood. Another type of salesmanship is represented in the work of advertising.

**Silent Salesmen.** — Advertising is a means of spreading information about goods which the producer or merchant wishes to sell. It is also being used more and more to offer arguments why the reader should buy. It makes it possible for the owner of goods to reach millions of people whom it would be financially impossible to approach through

salesmen. In other words, though the cost of advertising one article often runs into many thousands of dollars, this cost is much less than if the merchant were to attempt to reach the same number of people by a staff of salesmen. This does not mean that advertising can successfully replace the work of the salesman, but it does mean that it can reach a large



*Official, U. S. Army Air Corps*

#### PHOTOGRAPHERS IN THE MAKING

Photography plays an important part not only in advertising but in many other phases of our modern life. These young men are studying the vocation in the Air Corps Training School, Chanute Field, Illinois.

number of people whom the salesman would find it physically impossible to interview. Most important of all, it serves as an effective introduction for the work of the salesman in the case of prospective customers whom he does meet.

**The Value of Advertising.**—For the purchasing agent or buyer, advertising is of great value because it keeps him in touch with the production of new

commodities, informs him concerning business changes in which he is interested, and offers him a distinct service in securing articles his wholesale or retail house may need.

With the growth in numbers and improvement in newspapers and magazines, advertising has become one of the chief means of selling goods and services. It has also built up our great mail-order houses. It serves in some cases as an effective link between the producer and the consumer, who sell and buy directly without the expense of profit to wholesaler and retailer. Advertising campaigns have become a regular feature of business and their development has resulted in the creation of advertising agencies which demand the services of highly trained writers, illustrators, engravers, photographers, and a host of allied workers.

**Advertising as a Vocation.**—Advertising offers opportunity for creative work of endless variety. In addition, the money return for work of a high grade is large and employment is rarely, if ever, seasonal. A certain kind of creative ability is necessary in both the written and the illustrative work of advertising. Some people can become very expert, and others not at all so, just as in music or dramatic art. The ability to talk well and to sell is important, for advertising ideas often have to be “sold” to the prospective advertiser before they are tried out.

In entering the occupation, the beginner usually

assists in routine work requiring little technical knowledge. Advancement depends upon skill developed. Many workers in advertising have had only a high-school education. These have picked up what they have learned by helping higher-paid



THE ILLUSTRATIVE WORK OF ADVERTISING

The artist at the right is preparing color copy for an advertisement of woolen blankets. See page 281.

specialists, through art work in high school, or through home study. Good training in English and a well-rounded fund of general information are required of advertising experts. Therefore, the better your education the more easily can you qualify as an advertising specialist, provided you have the other qualifications essential to success in this field.

So far, in studying the field of business, we have



considered the vocations of buying and selling, including advertising. In the next chapter we shall consider the third and final group of vocations connected with this field — the vocations of the office.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

Beside the main highway to business, there are several by-ways. Your goal is success — if you are going to enter the business field, shall you attain success through *buying*, through *selling*, or through *advertising*? Whichever road you choose to travel, make your guidepost display a motto which will help you over the rough places.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) Cut from a magazine three or four particularly attractive advertisements, and paste them into your scrapbook. Briefly comment on what makes each of them appeal to you. Write your comments underneath each advertisement.

(2) Cut out a picture of some article which is advertised for sale, and write an *original* advertisement for the merchandise. Make up a new trade name, if you wish.

(3) Refer to the fifth project under *Field Studies* for additional matter for your scrapbook.

### THINKING THROUGH

1. Is barter still practiced in this country? If so, what kinds of things are exchanged? Why?
2. Trace the history of some staple product from the raw material out of which it is made to the finished product on your table.

3. What are the advantages of buying goods from a chain store? Are there any disadvantages? What business is being gradually done away with, as the chain stores become more numerous?
4. Under what phase of modern business does the work of the commercial artist come? How does his work get results?
5. Name five mechanical time-saving devices used in a large modern business office and explain how each increases efficiency.
6. In coöperation with another member of the class, arrange a dialogue between an expert buyer and an expert salesman. The merchandise may be any which interests you. Be sure you know your facts. If possible, use samples of the goods in your talk. Present your dialogue before the class.
7. Find out, if you can, what the duties of a tea-buyer are. Tell the class about his work.
8. What characteristics does your grocer have? Do they help or hinder his success as a salesman?
9. Describe the steps by which you might become a manager of a branch office or a store.
10. What is meant by *selling goods on a commission basis*? Is this a fair method for the employee? Why or why not?

#### FIELD STUDIES

1. If any members of the class have old coin collections, let them bring them to class for exhibition.
2. Report to the class on barter among the Indians and the early American colonists.
3. In an encyclopædia, read an account of the Lydians and their early coins. Try to discover why they should have been the first to make them.
4. Talk with the buyer of some merchandise in which you are interested and make your report according to the directions on page 25.
5. For one day, be the *buyer* of provisions in your household. In preparation for this project, visit several stores in your

community and compare the qualities and prices of the same kinds of food. Remember that the cheapest goods are not always the most economical. Make a list of the goods which you buy and the prices you pay. Paste this in your scrap-book, with a title like "A Buyer for a Day." Underneath the list write a comment on your experience; for example, tell what instances of good or poor salesmanship you met.

6. Have you ever tried to sell goods to the public? Describe your experience to the class.
7. Talk with the next salesman who comes to the door. Listen patiently to what he says about his goods. Notice whether he is enthusiastic about them. Judge whether he has the qualifications of a good salesman. If possible find out the information asked for on page 25.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*Lives of Poor Boys Who Became Famous* (John D. Rockefeller)  
by Sarah K. Bolton

*Girls Who Did* (Mina Hall Carothers) by Helen Ferris and  
Virginia Moore

*Cappy Ricks* by Peter B. Kyne

*Famous Leaders of Industry*, Second Series (Julius Rosenwald, Louis K. Liggett, William Childs, William Wrigley, Frank A. Munsey) by Edwin Wildman

*Careers* (Business as told by Irving T. Bush, Foreign Trade as told by Julius Klein to Esca G. Rodger)

##### 2. *Other References*

*Business Employments* by Frederick J. Allen

*What Shall I Be?* (chapters vii and x) by Clayton H. Ernst  
*Readings in Community Life* (part iv, section 3) by Howard  
C. Hill

*Fields of Work for Women* (chapters vii and viii) by Miriam  
Simons Leuck

*Success through Vocational Guidance* (chapter v) James  
McKinney and A. M. Simons



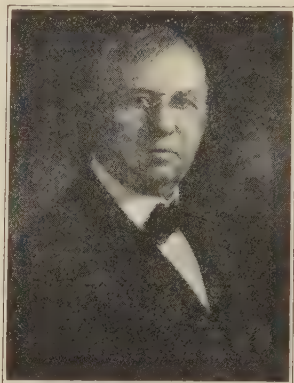
*Remington Rand Business Service, Inc.*

### OFFICE WORKERS AT WORK

In the following chapter you will study several typical office occupations. Here, the upper picture shows entry clerks and bookkeepers in the bookkeeping department of a savings bank. The lower picture shows the filing department of a large insurance office. For other office pictures see pages 9, 145, 148, 151, and 195.

## John Wanamaker

From errand boy at \$1.25 a week to the position of one of America's greatest merchants is a "far cry," but such was the remarkable career of John Wanamaker. Running errands for a



meager wage did not satisfy this fourteen-year-old boy, and he soon accepted a position in a men's clothing store for \$1.50 a week.

Before long, he became a salesman; after that his progress to a business of his own was a natural step. His methods, particularly in advertising, were strikingly different from those of his competitors, who simply stated that they had goods to sell. For example, at one time, he offered a free suit of clothes to every one who caught one of the balloons which he set floating over the city of Philadelphia.

By some such device he always succeeded in capturing the attention and interest of the public. He might well be called the "Father of Modern Advertising."

In 1876, John Wanamaker organized the first department store in the world, placing a buyer in entire charge of each department. The principles on which his store was run were honesty and consideration for his customers. From this small beginning, he developed an immense and prosperous organization which has made a famous place for itself in the business life of America.

Wanamaker made a great deal of money through his keen business ability. He was always generous in giving it to churches, hospitals, and schools, and was responsible for many civic reforms. His slogan was "Do the next thing."

## CHAPTER VII

### THE OFFICE

*Nothing useless is, or low;  
Each thing in its place is best;  
And what seems but idle show  
Strengthens and supports the rest.*

—LONGFELLOW, *The Builders*

#### 1. THE BUSINESS OF THE OFFICE

**A Service Unit.** — The office is not confined to the field of business, though it is primarily a business development; the doctor, the lawyer, the manufacturer, the railroad executive, and sometimes even farmers must employ office workers. The office, no matter what its field, is the center of the business activities of its organization.

The office workers of the nation number nearly one-half of the total of business employees in the country. If this army of workers were suddenly destroyed, most business activity in all fields of work would just as suddenly cease, for the office is a necessary service unit. Its workers carry on the correspondence and the clerical, statistical, and financial operations which are necessary processes in all vocations. It serves as a kind of switchboard from which managers direct their organizations; it is the central



agency which makes it possible for all units of a business or industry to coöperate.

**The Range of Office Work.** — The office offers many vocational opportunities for both boys and girls because of its wide range of occupations. Letter-writing, filing, typing (reports, instructions, records, etc.), bookkeeping, control of money matters, and many allied tasks are called for in the modern business office.

Like the other vocational fields, business has jobs for those who must leave school as soon as the law allows. These jobs are routine tasks requiring little or no technical knowledge. The pupil who is alert and wants the best education he can obtain, but must leave before entering senior high school because of circumstances beyond his control, can usually find employment of this sort. There are three groups of positions on this little-skill level: the *porter* is the janitor of the office; the *office boy* or *messenger* does the work which his name implies; and the little-skilled *clerk* does the routine, mechanical odds and ends of clerical work. Each of these positions may be made a stepping stone to promotion, provided the worker is ambitious and eager to profit by opportunities for outside study.

The dividing line between skilled office positions and those not skilled is not very definite. A messenger girl, for example, may spend her spare time in the filing room, or at a typewriter, or in the bookkeeping room, and gradually may become expert

enough to qualify as a trained worker in one of these lines. With study, practice, and close attention to her work, she may become a junior clerk. But she will have difficulty in competing with high-school graduates of the same degree of natural ability for advancement into the skilled work of the office.



A BUSINESS OFFICE

This is a picture of the executives' office in a job printing plant. Discuss its equipment, personnel, and work.

Office positions on the skilled level are represented by *typing*, *filing*, *stenography*, *bookkeeping*, and *accounting*. On the science training level we find the more highly developed *accounting*, *statistics*, *credit*, and *finance*. These several occupations are not the only ones in office work but they are typical enough to merit our considering them in some detail.

## 2. TYPICAL OFFICE OCCUPATIONS

**The Typist.** — The typist uses the typewriter for copying letters, records, and reports. She may copy from longhand, shorthand, from other typed or printed matter, or from a dictaphone. She may also be responsible for whatever mimeographing the work of the office requires. Her work differs from stenography in that it is confined almost entirely to copying.

Typing is a more or less mechanical job and likely to become monotonous in itself, but it often provides a means of learning many facts about the business of which it is a part and so may be a means to winning promotion. Secretaries and stenographers must be skilled typists. A position as a typist may often be obtained as soon as the worker attains a speed of thirty or forty words a minute with accuracy.

**The Filing Clerk.** — Filing has become highly developed in the last few years; it is a branch of office work which demands unfailing accuracy. The chief duties of the filing clerk are to classify the material to be filed, to insert it exactly according to the classification given, and to produce it at a moment's notice. She may become expert in organizing and systematizing central filing systems. A skilled filing clerk receives about the same salary as a stenographer.

Perhaps the chief requirement of a filing clerk is honesty, for she usually has access to all of the records of the organization. Thus, she must regard

as confidential the financial and other private details of the organization she serves. Accuracy and a clear memory for the various divisions of the classification used are also necessary in the work of filing. Filing may be studied in a high school, in special schools for filing, or in schools conducted by manufacturers of filing equipment. A position as a junior filing clerk or assistant leads to that of filing clerk. This in turn, through study, experience, and aptitude for the work may lead to promotion as chief filing clerk or specialist in organizing and systematizing files.

**The Stenographer.** — The stenographer is one of the essential workers in handling the *correspondence* of a modern office. The stenographer takes down in shorthand the words of the person dictating and transcribes it from shorthand into typed letters or reports. In addition, the stenographer often systematizes business records for an executive, tabulates reports, and keeps the executive's personal files in order.

Stenography offers an interesting combination of mental and physical work, usually in congenial surroundings. Like other office work it is comparatively free from seasonal periods of nonemployment. The salary of a stenographer varies considerably according to ability and the opportunity for demonstrating that ability. The successful stenographer is speedy and accurate in her work, has a good command of English, and can understand quickly what is meant in rapid and sometimes incor-

rect dictation. If the duties of a particular position include secretarial work, the stenographer must know the business details of the organization and be able to assume responsibility in an emergency. High-school graduation is a requirement in the best offices. In others, especially where the salaries are low, there may be no set educational requirement beyond the training in shorthand and typewriting.



STENOGRAPHERS AT WORK

An expert stenographer, especially one with college training, may immediately take up secretarial duties. The *private secretary* is the most important assistant of a business, industrial, or professional executive; in fact, she is that executive's "right-hand man." She must be ready to serve her superior

in any number of ways. Careful control of the office correspondence ; an accurate, intimate knowledge of the business details of his organization ; and a sympathetic understanding of the way her employer likes to work are all large factors in the success of any private secretary. She often has to use her own judgment in details of the work and so has more or less responsibility. A person in such a position has a big opportunity to get an inside knowledge of the organization and its management and so be in direct line for promotion to an executive position.

**Keeping the Books of the Business.** — In addition to correspondence and records of correspondence or filing, business requires that there shall be records of buying, selling, time taken and materials used in making things (manufacturing or producing), and general expenses. The expense account includes salaries, rent, insurance, and other such items. Expenses of this kind are called *overhead* expenses.

The workers who have charge of these records or keep the account books are called *bookkeepers*. Those who actually enter the records in the books are usually called *entry clerks*. The books are named according to the records they contain : sales books, customers' and creditors' ledgers, cash books, and several others, depending on the size and type of the business. All business transactions involving payment or receipt of money must be recorded day by day. At proper periods, the bookkeeping department sends out invoices and statements to custom-



ers. The billing or *invoice clerks* compute these bills, make them out, and verify the items against the original sales entries.

Bookkeeping as a position provides steady employment, responsibility, a fair salary, and an opportunity for promotion to *accountancy*. The chief requirements are accuracy, neatness, an understanding of the financial matters of the firm, a knowledge of modern methods of keeping accounts, and an ability to adapt bookkeeping systems to particular needs. A high-school education, commercial training, and several years of experience as entry or billing clerk are what may be expected as requirements for a bookkeeping position.

**The Accountant.** — The *accountant* is a person trained to examine business records critically. If you earn a dollar each Saturday and spend exactly that, it does not take a great deal of study to know how much is left at the end of the week. When a business or industry is operated on a large scale, price changes, variations in supply and demand, credit conditions, and financial situation all combine to complicate business management. If the owners are to know at frequent intervals whether their business is gaining or losing so they can take action before much money is lost, there must be a thermometer to show the exact state of health of the business at any time. This is the work of the accountant.

The accountant has various names, depending on his control over the finances of the business:

accountant, *auditor*, *comptroller*, *treasurer* or even vice president. He includes among his responsibilities the supervision of the bookkeeping department. The above refers to employment in a single concern. Another kind of accounting position is that of the *public accountant*, who makes a business of analyzing



*Remington Rand Business Service, Inc.*

#### A BOOKKEEPER OF A GENERATION AGO

Contrast this picture with that on page 141.

the financial condition of firms and of city, state, or national governments.

Accountancy, a position of much responsibility, often leads to participation in the management of a company. An accountant must have bookkeeping skill, an expert knowledge of business organization, and an ability to put the financial condition of a

business into easily understood figures. A course in a college or university school of business administration, combined with practical experience in an accounting department, offers the best preparation. Other business and correspondence schools offer accounting courses to those who cannot go to college. High-school work taken in preparation for accounting should include some college-preparatory subjects planned to prepare for a college accounting course.

**The Statistician.** — The *statistician* is a specialist in figures who may be assigned to any part of the business needing an expert study. The work of the statistician is much like that of an accountant, but does not usually carry with it the direction of book-keeping. It may be a study of sales, of purchases, of markets, or of production. Such a person must be a good mathematician with special training in the science of statistics. Statisticians are employed by large banks, insurance companies, government offices, public utilities, and other corporations. The statistician's place is sometimes called the *actuarial* department.

**Specialists in Credit and Finance.** — On page 124 we read that much of the business of to-day is done on credit. One of the most vital points in the conduct of business is for a firm to know the exact financial standing of a person or firm asking for credit in goods or money. Again, a customer who owes a firm a large amount of money may be put on a sound financial basis provided expert financial advice is

## Owen D. Young

Owen D. Young is an outstanding example of the specialist in finance. His career is also an interesting illustration of the lawyer who makes his profession a stepping stone to industrial leadership.

Born in New York State, he graduated from St. Lawrence University and then studied law at Boston University. From the practice of his profession he was called in 1913 to the vice presidency of the General Electric Company. Later he became chairman of the board of directors of this same company, and still later director in several of our largest corporations, such as the Radio Corporation of America and General Motors.

However, law and business are not the whole story of Owen D. Young's life. Like many others of our business leaders, he has sacrificed private interests in order to be of public service. He was a member of the industrial conferences of Presidents Wilson and Harding, and was also on the first committee of experts appointed by the Reparations Commission. As a member of this commission, he was the chief author of the Dawes plan of reparations payments. For a while he was agent general for reparations payments, and in 1929 was one of the three members of the American committee on the revision of German reparations. The governments of four nations, France, Belgium, Germany, and Japan, have decorated him.



given and followed. Banks, large department stores, manufacturers, and wholesale houses employ many credit specialists.

A credit specialist should be a good accountant and, in addition, be able to place a value on such assets of a firm as good will, the integrity of the officers, and the paying power of those owing the firm money. This vocation is generally approached through the position of *credit investigator*. One with no previous experience is given a short training in the methods of investigating a person's or firm's financial standing and business judgment. He receives this training from a company specializing in this work or from one with a large credit department. The beginner is then given tasks in proportion to his experience, and the road to advancement lies ahead.

### 3. OWNERSHIP AND MANAGEMENT

**The Field of Management.** — Management is the job of directing people. The position comes to a person who can command the respect of his associates as a trained worker and can, in addition, show his employees that he is best qualified to plan and supervise their work. Management requires a knowledge of human nature as well as of the work of people. There are management positions in agriculture, business, industry, home making, and professions.

Management is very closely related to the work of the office. Wherever there is manufacturing or selling connected with an office, the executive positions are usually given to those who have had practical

experience in the factory or sales department combined with experience in the office. The person chosen for a management position — to direct the work of others — must fit himself, and those under him, into the general plan made by the higher officers and owners. He must be one who is willing to sacrifice his own personal preferences and hobbies in the interests of the master plan for the operation of the business.

**Ownership.** — Ownership is possession of property. Successful ownership requires skill in the use of property — skill in buying, selling, and production. Investment of an owner's money (or other goods) may be personal, as in the case of a store operated by the owner himself, or it may be by people who have no share in the actual management of the business. When people purchase stock in a corporation or a firm, they are investing in other people. Persons joining one another to form a partnership or firm are investing in one another. Ownership is found in all five vocational fields.

Many people who have spent years in saving money from their earnings, such as mechanics, salesmen, or other workers, or who have money left to them, decide to go into business. They are not sure just what they will sell, how much or what or when to buy. They do not know customers who are "good pay" from those who are not. Such owners in a very short time have all their money, and all they can borrow, tied up in goods that will not sell, equip-



ment that they should not have purchased, and customers who will not pay their bills. They are on the little-skill level as owners and managers.

Management and ownership are usually combined in smaller businesses, such combination often resulting in the small misplaced and mismanaged store. At the other extreme we find the great corporation handled by experts in various departments under the direction of a president and board of directors. Successful management combines (1) a knowledge of processes — such skill as the mechanic, engineer, and accountant possess; (2) a knowledge of people and how to get the most from them in loyal service; and (3) the confidence of higher administrators in the manager's ability and in his loyalty to them and the firm. Ownership often comes to good managers through opportunity to become members of the firm or to invest in stocks of the corporation.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

Office work may not seem to you the great romantic adventure which you wish to choose as your life vocation, but it is just as necessary and useful a part of life as some of the more spectacular occupations. A life of service at the desk may be as satisfying as one which takes you far afield. Let your guidepost show some lesson from this chapter.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

### 3. *Scrapbook Suggestions*

(1) Copy neatly into your book a week's entries from your cash account.

(2) Cut out from some magazine or newspaper statistics on some subject which interests you.

(3) Make a list of the qualities that a manager of a business must have.

### THINKING THROUGH

1. Why should a stenographer be especially well grounded in English?
2. What kind of office position would you choose if you decided to enter the business field? What advantages does it seem to you to have over other beginning positions? In what sort of business would you prefer to hold this office position? Why?
3. Explain the difference between a bookkeeper and an accountant.
4. Suppose that you were a credit specialist in a department store. If Miss Brown came to you to open an account, what questions would you ask her? Would you require references? If so, from whom?
5. Why does a manager or an owner need a thorough education?
6. What qualifications should a man have if he wishes to go into business for himself?
7. Give five reasons why a man might fail in business. (It is possible that he may not be directly responsible for his failure.)
8. Which would you prefer — to be part owner of a store which yielded you \$10,000 a year, or to work for some one who paid you that amount? Why?
9. Explain the meaning of the quotation at the beginning of the chapter. What connection has it with the chapter?
10. Find out from your commercial teacher or from a book of office practice what machines are used to "speed up" modern office work. Describe them to the class.

## FIELD STUDIES

1. Visit a modern office. Notice the number of employees, what each does, what mechanical, time-saving devices are used, and so forth. If possible, talk with one of the employees about working conditions — hours, salary, promotion, and disadvantages.
2. Find out who holds the world's record in speed in typewriting. Obtain his picture, if possible, and paste it into your scrapbook. Send to one of the typewriter firms and obtain printed matter which gives the rules for typists who enter the big contests. If you are studying typewriting, report to the class what your speed record is, and tell how it is computed.
3. An expert court stenographer may receive as much as \$500 a month. Find out what the public typist charges by the page for her services.
4. Find out the various methods of filing and describe one to the class.
5. Write a letter to an imaginary employment manager in any business you wish, applying for a position as a messenger boy or girl. Be sure to tell him what qualifications you have for the position, your age, school training, etc., and refer him to two business men who know you.
6. Find out the ordinary salary paid to a stenographer who has had high-school training only.
7. Find out from a bookkeeper what is meant by: double-entry bookkeeping, debit and credit, a ledger, a journal, a day book.
8. The simplest form of bookkeeping is keeping a cash account. Do you keep one? If you have not already adopted this excellent habit, do so. Be sure that your account balances. Your teacher or parents will help you to get started.
9. From an insurance company obtain statistics which show facts concerning the value of insuring one's health, one's property, or one's life.
10. Find out what a coöperative bank is.

## INTERESTING READINGS

1. *Stories and Biography*

*A Wall Street Girl* by F. O. Bartlett

*Jimmy Quigg, Office Boy* by H. S. Latham

*Girls Who Did* (Mabel E. Stewart) by Helen Ferris and Virginia Moore

*Famous Leaders of Industry*, Second Series (Andrew W. Mellon) by Edwin Wildman

2. *Other References*

*Analysis of Secretarial Duties and Traits* by W. W. Charters and I. B. Whitley

*Elements of Business Training* by John M. Brewer and Floyd Hurlbut

*What shall I Be?* (chapters iii and iv) by Clayton H. Ernst

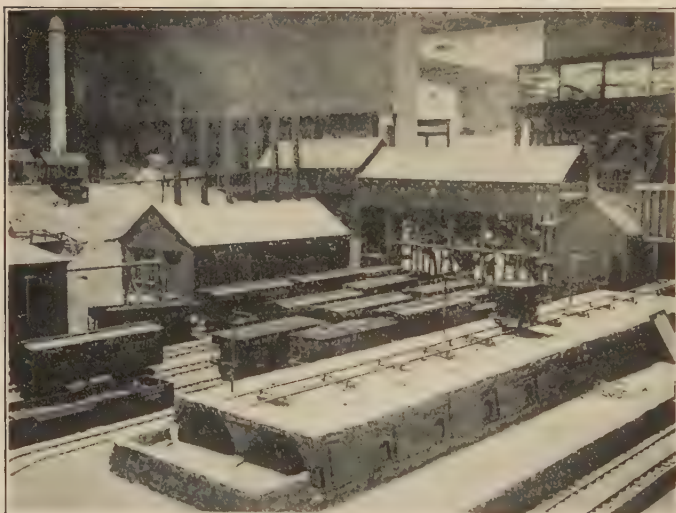
*The Girl and the Job* (pages 6-24) by Helen C. Hoerle and Florence B. Saltzberg

*Junior Training for Modern Business* by J. G. Kirk and Mary A. Waesche

*Fields of Work for Women* (chapter v) by Miriam Simons Leuck



*Keystone View Company*



*Wide World Photos*

#### MINING AND MANUFACTURING

*Above.* The two miners are disconnecting an electric cutter.

*Below:* A "model" coke manufactory.

## PART III—THE FIELD OF INDUSTRY

### CHAPTER VIII

#### MINING AND MANUFACTURING

*Thus at the flaming forge of life  
Our fortunes must be wrought;  
Thus on its sounding anvil shaped  
Each burning deed and thought.*

—LONGFELLOW, *The Village Blacksmith*

#### 1. THE DEVELOPMENT OF INDUSTRY

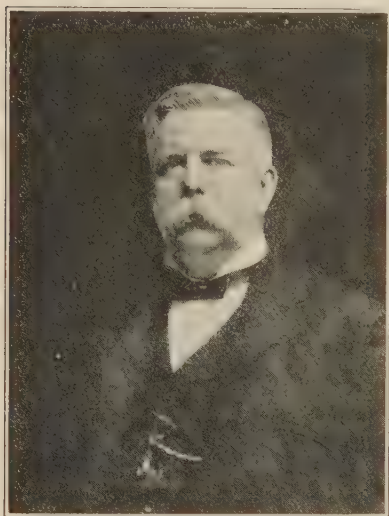
**Making Things.** — That Westinghouse boy certainly loved to tinker! He spent all his spare time in his father's shop making things. Steam engines were his hobby, and he knew so much about them by the time he was fifteen that he was able to enter the Civil War as an assistant engineer in the navy. After the war he went to college to learn more mathematics and science so that he might obtain a higher position than that of operating an engine. He wanted to *make* engines as well.

Then came a railroad wreck. Bang! Two freight trains were in collision — splinters, twisted iron, escaping steam, and cries for assistance! And George Westinghouse, who saw that wreck, got his idea. Why did railroads attempt to stop trains weighing hundreds of tons with little hand brakes



twisted by brakemen? Why couldn't the great power of the steam engine in some way do the work? Well, how?

Then one day he picked up a little magazine and read about the Mont Cenis (môn'sē-nē') tunnel in



GEORGE WESTINGHOUSE

the Swiss Alps and about the use of compressed air to operate the drills. There it was! Compressed air could be made to stop trains.

Filled with the idea, George went to his father, a manufacturer of farm tools, to get him to make his wonderful new railroad brakes, but he couldn't convince his father that air could stop a 200-

ton train going forty miles an hour. But young Westinghouse was not discouraged. He had his invention patented and, after many unsuccessful interviews with men of importance, he went to Pittsburgh to see Andrew Carnegie.

Carnegie, impressed by the persistence and earnestness of this young man, thought there *might* be something in the proposition. He and his associates, Pitcairn and Bagley, helped Westinghouse to equip a

train with air brakes. The train, so equipped, in its first trial met with an unexpected test. By chance, a farmer drove on to the tracks just ahead of the train, which was stopped in time only by means of the air brakes — a feat that could never have been accomplished by the old hand brakes.

Thus the Westinghouse Air Brake Company was born, with Westinghouse as president and general manager — the first of a group of companies which to-day employ over a hundred thousand workers. One of the best known of these is the Westinghouse Electric and Manufacturing Company. Westinghouse had mechanical interest, skill, and stick-to-it-iveness, as well as a willingness to pay the price of success in persistence and work.

**The Beginnings of Industry.** — The career of Westinghouse illustrates the importance of machinery in our present world of work. His invention of the air brake is a good example of the host of inventions and discoveries which have marvelously improved living and working conditions in our modern civilization.

For thousands of years men raised food, wove cloth, and exchanged goods in the clumsy ways of their fathers. Even during the seventeenth century their awkwardly-fashioned, primitive tools of agriculture and manufacture differed little from those used in much earlier times.

The change that was to overturn all these age-old methods of working came first in the field of manufac-

ture. In the eighteenth century several successive developments in the art of weaving started what historians call the *Industrial Revolution*. The age of the machine was at hand, bringing with it the steam engine and the vast improvements in transportation made possible by the steamboat and the railway. With each succeeding year, discovery followed discovery, one invention after another came in rapid succession, and the end is not in sight.

These inventions of the machine age also brought about the factory system which you know. At first, the machines made slaves of laborers. The factories were controlled by rich and selfish capitalists who paid the workers starvation wages. To-day, however, education of the masses, development of labor unions, and the growth of a public conscience for a square deal between labor and capital have largely removed such evils. In America, education and democracy are providing equality of opportunity and the right to a comfortable living for all who, like Westinghouse, have the will to study and work.

Four divisions of industry make convenient units for our study of this field: (1) *mining and quarrying*, (2) *manufacturing*, (3) *building*, and (4) *public utilities*. The miner has as his chief task the extraction of minerals from the earth. Manufacturing is distinguished from other industries by the variety and character of its products. It makes everything from pins to huge locomotives and gathers its raw materials from farms, ranches, forests, and mines. The builder makes things, too, but chiefly out of



*Underwood and Underwood*

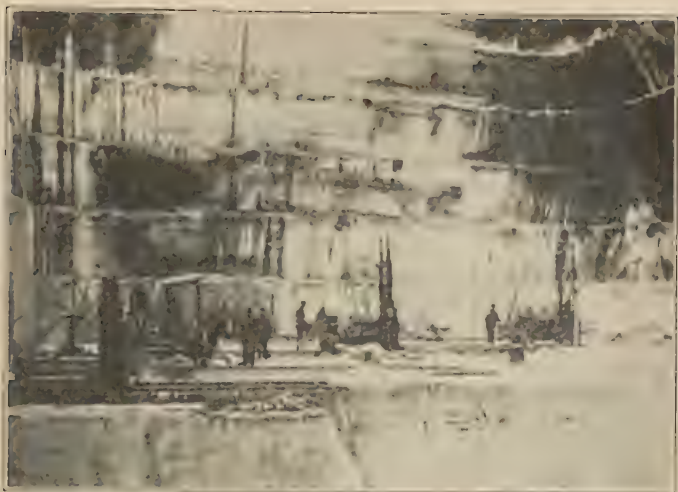
PROGRESS IN THE TEXTILE INDUSTRY

finished products which the miner and the manufacturer have furnished. Public utilities supply materials or services such as water, gas, electricity, and transportation. These latter industries are more or less subject to public control through local, state, or federal governments, while manufacturing, building, and mining are usually controlled by individuals or corporations.

## 2. THE MINING INDUSTRIES

**What Mining Is.** — Do you think of a miner as a bewhiskered chap in a slouch hat, leading a mule laden with picks, shovels, tin pans, and blankets and struggling up a narrow mountain trail? Or do you picture his more modern brother, drilling away at the dingy wall of some tunnel under the flickering rays of the queer little lamp fastened to his cap?

Mining nowadays includes much more than either of these pictures suggests. In its simplest meaning, it refers to the *extraction* or *recovery* of minerals from the earth but, in its fuller sense, it suggests the activities of many allied occupations. In any modern mining district there are specially designed buildings and intricate machinery, with a well-organized system for the economical extraction of the minerals in that region. Modern mining, following the example of modern business, has reduced waste of its products to the minimum, and efficiency is the keynote for the work of *mining engineers*, *mining superintendents*, and *metallurgists*. (Met'al-lur'gy is



*Keystone View Company*

THE FOUR DIVISIONS OF INDUSTRY — (1)

*Above:* A Vermont marble quarry (mining).

*Below:* "Pouring" in a bronze foundry (manufacture).





*International Newsreel*



THE FOUR DIVISIONS OF INDUSTRY — (2)

*Above:* Iron workers "knock off" for lunch (building).

*Below:* The power plant at Boise, Idaho (public utilities).

the science of extracting pure metals from *ores*, as by *smelting*.)

**Classification of the Mining Industries.** — The mining industries may be classified according to their methods of extraction. The *solid* minerals fall into two groups: (1) those like *coal*, *salt*, and the *metals* which are recovered by underground cutting or by hydraulic washing, and (2) those which are quarried. In the latter group are such minerals as building and decorative *stones*. To this group belong also the minerals which are obtained by surface digging — such minerals as *peat*, *clay*, and *sand*.

*Liquid* minerals, including *mineral-bearing waters*, and *natural gases* are recovered by sinking wells. Salt is procured chiefly by this method because it occurs oftenest in underground solutions which may be pumped to the earth's surface and evaporated. *Petroleum* and *sulphur* are among the principal minerals obtained by drilling wells.

**The Uses of Minerals.** — Most of you are familiar, through your study of geography and science, with the uses of the principal commercial minerals. You know that *coal*, *iron*, *copper*, *gold*, *silver*, *lead*, and *zinc* are very valuable. You also know that the mineral oils and natural gases are of great importance in modern life. You know that without quarries we should not have our many fine *granite*, *marble*, *limestone*, and *sandstone* buildings. Perhaps some of you have gone a step further and observed that the mining industry provides us *slate* for roofs, stair treads, and



*Keystone View Company*



#### AT THE MINES

*Above:* Close view of conveyers, tippie house, and loading platform at a coal mine.

*Below:* Hydraulic mining.

blackboards; that *clay* mines have given us bricks, pottery, and fine chinaware; and that *sand* pits have made possible our fine glassware, cement, and concrete. Thus it is evident that the mining industries supply raw materials to many of our manufacturing industries.



GRANITE CUTTING

Is this a healthful occupation? Why?

**The Workers in the Mining Industries.** — In mining, as in all other industries, there are the three vocational levels. It has its *miners* who do the actual work of getting out the minerals, loading them for shipment, and preparing them for market. Work of a *clerical* nature is also required in the larger mines, such as the work of time-keepers, checkers, book-keepers, and laboratory assistants.

Mines, quarries, and oil fields need large numbers of *skilled mechanics*. Unless you live in a locality where you may observe such workmen at first hand, it may not be personally helpful for you to consider their work in detail here. Also, since mining areas are limited in extent when contrasted with farming



AN OIL FIELD

What division of industry is here represented ?

or manufacturing sections of the world, the work of the little-skill and skilled levels is interesting as a vocation chiefly to the technically trained man who must supervise it, and to the people in the neighborhood of a mining center. This limitation does not apply so strictly to the metallurgical industries of smelting and the like, because they are frequently carried on in centers far from the mines.





*Unpublished Newsfeed*



#### HANDLING THE RAW MATERIALS OF THE MINES

*Above:* Iron-ore docks in Ohio.

*Below:* A zinc mill in Colorado. Do your best to fill in the workers at work and to find out the training levels.



A brief discussion of the science level will now show whether it is desirable for you to consider this phase of mining as a vocation.

**The Science Level in Mining.** — The mining industries depend upon the services of technically trained workers, who have studied sciences like *geology* or *mineralogy*. Location of mineral deposits and investigation of their commercial value are the work of the *mining engineer*. Usually he is employed by some company to search out the best properties and secure them for development. He must decide whether the supply of minerals is large enough and of sufficient quality to justify the investment necessary to work them. He should have a thorough knowledge of geology, and good business judgment based on information of markets, labor supply, and means of transportation. He should also understand the details of mine management. A technical education and much experience in the field are required for this position.

Immediately responsible to the mining engineer is the *mine superintendent*, who must know how to handle men and equipment under trying conditions. Cave-ins, explosions, flooded tunnels, break-down of equipment, and similar disasters are likely to occur even in the best-regulated mines. Getting out the minerals at the least possible cost is the superintendent's chief responsibility. In a small mine, he must be the bookkeeper and act as chemist and surveyor. In the larger mines, he will have *foremen* and *shift*

bosses directly in charge of the miners. Also on his staff will be found the heads of several departments — the *mechanical, chemical, and metallurgical engineers*, and the *office manager*, all belonging to the science level.



*Keystone View Company*

#### TESTING HELIUM

These specialists are at work in the laboratories of the Bureau of Mines.

One other group of experts is especially prominent in the mining industry — the government specialists in the *Bureau of Mines*. This bureau, a division of the *Department of the Interior*, is administered by a *director* who has a large staff of specialists in *metallurgy, chemistry, explosives, fuels, and mining*. Special studies of mine management, mine accidents, mineral analyses, and fuel combustion are made by

these workers. The five technical divisions of the bureau are *mining*, *metallurgy*, *mineral technology*, *fuels*, except petroleum, and *petroleum* including natural gas. The bureau issues bulletins descriptive of its work and containing reports of its investigations. These publications make good material for class reports, and are obtainable in a public library or on application to the Bureau of Mines.

**Mining as a Vocation.** — Mining is a calling of adventure as well as of science and service. It summons its workers to the far places of the earth, to scenes of primitive life, often lonely and dangerous. Many mining communities have only a short life because they can exist only as long as their mines are productive, but they are real hives of industry while they last, and perform invaluable service to civilization. Herbert Hoover is an outstanding example of men whose natural inclinations lead them into the profitable, often thrilling, and very useful occupation of expert mining engineer. His career should be studied carefully by any of you who may wish to follow his early vocation.

### 3. THE MANUFACTURING INDUSTRIES

**A Creative Industry.** — Whirr and clack, or plunk and thump — all day long men and machinery are busy turning raw materials into useful articles. The rhythmic voices of machines are chanting over and over their refrains, as silk, paper, steel rails, furni-



*International Newsreel*

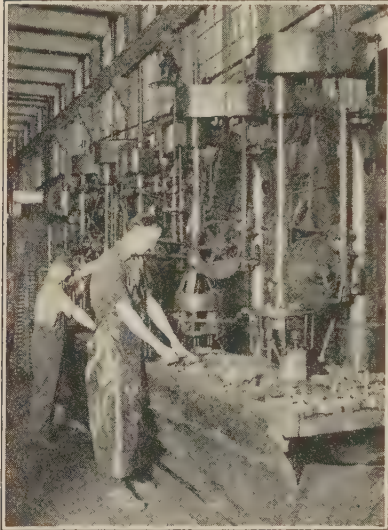


#### THE FIRST PUBLIC TELEVISION TEST

Herbert Hoover and President Gifford of the American Telephone and Telegraph Company conducted this test.

ture, and thousands of other products flow from the factories.

The changes which manufacturing makes in raw materials are of two kinds — *physical* and *chemical*. Physical changes are changes in size, shape, and form ;



*General Electric Company*

MULTIPLE DRILLING OPERATION

What training level?

chemical changes result in the production of new materials whose composition differs from that of the original materials. Furniture is an example of physical change; soap, of chemical change.

**The Manufacturing Process.**—Every manufactured article is the result of invention, as is also every step connected with its improvement. For this

reason scientific research and inventive skill are becoming very important factors in industry. But invention or discovery of a new article is only a first step. Once such an article has been conceived, a model of it must be made and thoroughly tested, and a method of profitable production must be planned. In other words, the things which are made must



be sold; the materials from which they are made must be bought; and the people who make them, as well as those who do the buying and selling, must have places to work, and tools to work with. There must also be foremen, superintendents, and other executives to supervise and direct the work of production — all three training levels are represented. The successful manufacturer also maintains high quality in proportion to the selling price in the goods he produces, and renders all possible service to his customers. Thus you see that research and invention, supervision, proper equipment, economical sources of supply of raw materials, adequate buildings, and trained, well-paid workers are essential parts of a successful manufactory.

*General Electric Company*

SHEET-METAL SPINNING

**General Types of Manufacturing.** — Manufacturing in the United States employs about the same number of workers as the entire field of agriculture. It includes a very wide range of products which we





CLAY PRODUCTS

Making cups and saucers in the Lenox, Inc., factory (page 33).

cannot consider individually, but which in part may be classified among the following industries.

Chemical products	Paper
Clay and stone	Printing and publishing
Clothing	Textiles
Food	Tobacco
Iron, steel, and other metal products	Leather
Lumber and furniture	Miscellaneous

Each of these industries has places for workmen on the three levels and each has need of the services of office workers. Approximately one half of the workers in manufacturing belong on the little-skill level. Their chief duties consist in moving materials from department to department, in performing routine labor on machines, and in sorting materials.



BRONZE WORKERS

*Keystone View Company*



A MACHINE SHOP

Modern shops are replacing the belt drive with bench motors.

But, since we are interested primarily in the work of the skilled and science levels, let us see what they offer in manufacturing.

**Skilled Workers in Manufacturing.** — Approximately two fifths of the workers in manufacturing industries may be classified as skilled. Not a few of these skilled workers are women. The skilled-level occupations may be divided into two groups which are closely related to the work of the science level. One group we may call the *creative occupations*, those connected with determining the physical or chemical characteristics of the article to be produced; and the other group may be termed the *mechanical trades*. The work of the first group is carried on by designers and by research assistants in the laboratory. The second group is represented by such workers as machinists.

**The Creative Occupations.** — In many industries, such as textiles, the goods to be made must present a pleasing appearance in form, texture, and color. The designer creates the patterns and color designs for products in nearly all industries. He designs hats, jackknives, dolls, tinted paper, tools, and an infinite variety of other products. A model of the finished product is usually prepared from wood, clay, or paper.

In every industry which makes or uses machinery, there is a need for drawings of machine parts and for machinery designs. The work of preparing such drawings and designs is called *mechanical*

*drafting*. This field, open to men and women, requires mathematical ability, a knowledge of mechanics, and drawing skill. A boy or girl of unusual skill in drawing will do well to consider carefully the vocational opportunities which industry offers designers and draftsmen.

**The Laboratory Worker.** — Many industries require the use of chemical laboratories. A chemical laboratory of any size usually has a college-trained chemist in charge. Much of the work, however, may be done under his direction by high-school graduates. Duties consist in testing raw materials submitted for purchase, testing during the process of production, and testing the finished product to see that it measures up to the required quality. The work of the laboratory offers opportunities for young women as well as for men. Employment in other departments after several years of laboratory experience rounds out a good preparation for a higher administrative position such as *production manager*. Working conditions in the laboratory are usually excellent. High-school graduation is ordinarily a minimum requirement for such workers.

**The Mechanical Trades.** — Manufacture also calls for the services of many skilled mechanics whose training qualifies them for various important tasks. Electricians, pipe-fitters, molders, machinists, die sinkers, sheet-metal workers, boiler makers, forge and hammer workers, blacksmiths, and similar

workers need mechanical skill, some mathematical ability, and considerable physical strength.

Some of the mechanical trades may be taught in your school, and so you may easily get a good idea of the kind of work demanded in them. Others, in



ELECTRICIANS

At work in wiring a central exchange of the New England Telephone and Telegraph Company.

which you may be interested, require library research or similar study, if you are to find the necessary information about them. By way of illustration, let us consider the work of the pattern maker. His trade is comparatively little known but highly important in the field of industry. He prepares his patterns by shaping metal, wood, or other substance into the

forms required by the designer. He follows the designs submitted to him in blueprints, drawings, and written instructions. The wood pattern maker uses the edge tools of the carpenter and cabinet maker together with machines such as the wood-turning lathe. The metal pattern maker uses the tools and machines of the machinist. Both must understand the process of molding, be able to draw



and read blueprints, and be especially skilled in the use of hand tools.

Other industries, such as the garment industry, also have skilled trades which perform important services in the field of manufacture. For example, in the picture below, we see a section of the designing and cutting room where the patterns are prepared and



SKILLED WORKERS IN THE GARMENT INDUSTRY

passed on to the *markers* who use them to mark the cloth for cutting. For some of you boys and girls there are interesting possibilities in this industry.

Each mechanical trade needs *apprentices* and provides good opportunity for advancement. Wages are usually good and working conditions satisfactory. Ordinarily, an apprenticeship of three to five years is taken in training for these trades. This is best



combined with or taken as a part of a trade course in a high school or trade school.

**The Science Level in Manufacturing.** — In industry, more than in any other field, scientific training and accurate knowledge are demanded and highly rewarded. Particularly is this true in food and clothing manufacture, in chemical supply houses, and in iron and steel mills. All industries, however, have learned that high salaries for research and production experts are good investments. Establishments like the General Electric Company, Standard Oil Corporation, General Motors, or the Du Pont manufacturing interests spend huge sums annually on the work of such experts.

#### MY GUIDANCE SCRAPBOOK

##### 1. *My Guidepost*

Picture a great mass of working people marching along, keeping pace with the progress of civilization. When you join this army, you will want to reach the front ranks. Make your sign indicate how this can be accomplished in the world of industry.

##### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

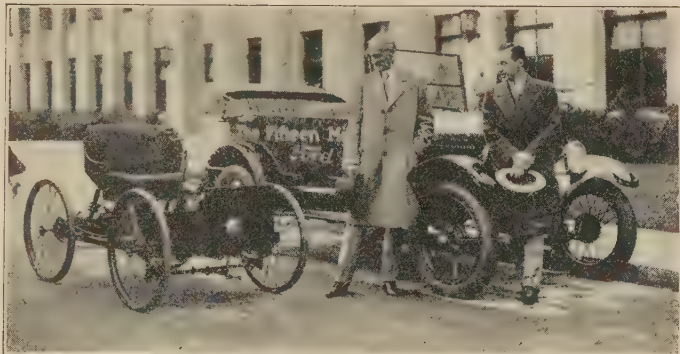
##### 3. *Scrapbook Suggestions*

(1) Obtain a picture of Herbert Hoover for your scrapbook. Label it "A Famous Engineer" and write under it a brief account of the places to which he has gone for important engineering work.

## Henry Ford

When Henry Ford was a boy, he was always tinkering and experimenting. At an early age, he found that it was as easy for him to put a watch together again as it was to take it apart!

Leaving school at the age of fifteen, he went to work in Detroit for the Edison Illuminating Company, where he finally became chief engineer.



Always, as he worked, he dreamed of a practical "horseless carriage." After years of experimenting, he finally installed a one-cylinder gasoline engine in a small wagon on bicycle wheels. It sputtered and creaked, but it went! It took him twelve years to perfect this first clumsy model, and it was not until 1903 that he organized his own company to manufacture the best car possible at a low price.

Ford's business policies have made him one of the richest men in the world; at the same time they have given immeasurable benefits to society. Not only did he put a car within the reach of people of moderate means all over the world, but he improved the relations between labor and capital by the standards he established. He allowed his workers to share his profits in the shape of large salaries and countless opportunities for recreation, education, and investment.

The huge factory in Detroit is supplemented by branches in many cities, both in this country and abroad. He owns mining and lumber camps, ships, railroads, foundries, and power plants, all of which contribute to the production of Ford and Lincoln cars, Fordson tractors, and huge tri-motored airplanes. According to *Who's Who*, he is the largest manufacturer of automobiles in the world, having in his employ over 200,000 persons who turn out about 7500 cars a day.

(2) Cut out any advertisements which show products whose raw materials have been mined. Have your title under each tell what the raw material was.

(3) Look about your home and make a list of 25 manufactured articles. Try to include articles which will make your list individual.

### THINKING THROUGH

1. In what section of the country is each of the following minerals recovered from the earth? — coal, salt, silver, iron, copper, natural gas, petroleum, sulphur, lead, clay, granite, marble, and limestone.
2. What raw materials from the ground are manufactured into valuable products?
3. If you wanted to be a mining engineer, what subjects in high school would be a help to you as a foundation for this vocation? What kind of special preparation would you seek after high school?
4. What is being done to improve the working conditions of miners?
5. What is the difference between mining and metallurgy?
6. Is there any relation between mining and certain of the public utilities? If so, what? HINT: What is artificial gas made from?
7. Name several inventions made within the last hundred years which have improved living and working conditions.
8. In what way did the education of the masses improve the working conditions in factories?
9. Name two articles not mentioned in the text whose raw materials have undergone a physical change; two whose raw materials have undergone a chemical change.
10. What is the purpose of labor unions?
11. Illustrate each class of industries mentioned on page 180 by naming one of its products.
12. In what kinds of manufacturing does a pattern maker find employment?

## FIELD STUDIES

1. Look up an account of the gold rush to California in 1849. Describe to the class the simplicity of the equipment and some of the dangers accompanying mining less than 100 years ago.
2. Have any valuable metals been found in your section of the country? If you are near an oil field or a quarry, watch the men at work and tell the class what methods they use.
3. In an encyclopædia, look up an account of smelting.
4. Many dramatic and heroic acts have come about through mine disasters. Tell the class of some true story which you have read or heard concerning such a disaster.
5. Send to the Bureau of Mines, Department of the Interior, Washington, D. C., for descriptions of mine accidents, or mine management, or some other phase of the study which interests you. Copy or cut out from these pamphlets any sections which you think worth preserving in your scrap-book.
6. Read a selection from a biography of Herbert Hoover which tells of his experiences as a mining engineer. What qualities which make him an expert mining engineer also make him an efficient president of the United States?
7. If you, like Westinghouse, are of a mechanical turn of mind, tell the class what kinds of things you enjoy making. Have you any invention which you are working on, or have you any ideas for inventions?
8. From a book on civics, obtain all the information possible about the Patent Office — how many patents have been granted in the United States, how many are granted every year, what percentage is obtained by women, how one is obtained, and any other interesting facts. From the Patent Office in Washington you may secure a copy of the *Patent Office Gazette* (a weekly publication), which contains patented ideas, pictures of patents, trade marks, etc.
9. Read an account of the Industrial Revolution in a history book.

10. Consult an encyclopædia to find out about the process of silk manufacturing.
11. Test your ability as a designer by modeling from clay or soap a number of articles such as furniture, dolls, ships, etc. Place these on exhibition in your classroom.



*International Newsreel*

“THUS AT THE FLAMING FORGE OF LIFE”

12. Let the pupils who study mechanical drawing bring to class samples of their best work. Let one of them prepare and give a short talk to the class telling a little about his subject.
13. Find out what work is done by a chemist in some factory.
14. The quotation at the beginning of the chapter is from *The Village Blacksmith*. Do you know the whole poem? Are people right in thinking that with the substitution of motor vehicles for horses the blacksmith shop has vanished? Find a smithy in your community and learn what kinds of work the blacksmith does. If you cannot find one, consult reference books in the library.

## INTERESTING READINGS

1. *Stories and Biography*

*Henry Ford* by J. G. de Roulhac Hamilton

*Nellie's Silver Mine* by Helen Hunt Jackson

*Thomas Alva Edison* by Francis W. Rolt-Wheeler

*The Boy with the U. S. Miners* by Francis W. Rolt-Wheeler

*Andrew Carnegie's Own Story for Boys and Girls* edited by  
Eva M. Tappan

*Famous Leaders of Industry*, First Series (George Eastman,  
Charles Goodyear), Second Series (Herbert Clark Hoover,  
John Hays Hammond, Elbert H. Gary) by Edwin  
Wildman

2. *Other References*

*Trade Foundations* (pages 65-79, 97-164) by R. H. Rodgers  
and others

*The Metal Trades* by R. R. Lutz (Cleveland Education  
Survey)

*Success through Vocational Guidance* (chapters viii and xiii)  
by James McKinney and A. M. Simons

*Manufactures* by W. F. Rocheleau

*Vocations in Industry* (book ii) by May Rogers Lane





*Publishers' Photo Service*

#### PROGRESS IN THE BUILDING INDUSTRY

*Above: Cliff dwellings in Arizona.*

*Below: Lower Manhattan Island.*

## CHAPTER IX

### BUILDING AND PUBLIC UTILITIES

*Men, my brothers, men the workers, ever reaping something new:  
That which they have done but earnest of the things that they shall do:  
For I dipt into the future, far as human eye could see,  
Saw the Vision of the World, and all the wonder that would be;  
Saw the heavens fill with commerce, argosies of magic sails,  
Pilots of the purple twilight, dropping down with costly bales.*

— TENNYSON, Locksley Hall

#### 1. THE BUILDING INDUSTRY

**The Beginnings of the Industry.** — The blurred legends of antiquity do not tell us what kind of shelter man first *built* for himself. Perhaps the first one he ever *used* was some bat-haunted cave which he preferred to the teeth of the tiger which had pursued him. Whatever the fact, history shows us that, after food, shelter is the most urgent need of human beings.

It is a long step from the cliff dwellings of primitive America to their modern successors, the towering apartments of our twentieth-century cities. Yet such progress is characteristic of the building industry in all civilizations. The various Ages of Man — Stone, Copper, Bronze, Iron, and Steel — brought succeeding improvements in the tools with which man worked and corresponding improvements

in the structures which he built for shelter and assembly. The pyramids of Egypt, the palaces of early Crete, the ruins of ancient Rome, and the architectural treasures of Greece have set high standards in the art of building. Roman roads and aqueducts still exist to testify to the skill of their builders; and other products of the early stone mason, carpenter, and smith still survive to serve as models for modern artisans.

**The Business of Building.** — The business of building is one of the most important and complicated of modern human activities. As an industry, it requires huge investment of capital and large numbers of little-skilled and skilled workers. It is important among the industries in the number and range of materials it uses and in the many subdivisions of labor which it requires. Modern machinery and increased scientific information, with our enormous production of artificial building materials such as concrete, improved paints and varnishes, roofing materials, corrugated iron, and artificial stones, have contributed much to man's mastery of modern building problems.

Modern means of communication and transportation have also advanced the building industry. No longer does each community depend only upon the materials and artists of its neighborhood. A new building in Chicago may be designed by an *architect* whose office is in San Francisco; the *interior decorator* may be an expert from Paris; and the *contractor* may

have headquarters in New York City. When construction is completed, it would not be unusual if the building contained *iron work* manufactured in Pennsylvania from *ores* produced in Minnesota ; *wood* from the forests of Oregon ; *marble* from the quarries of Italy ; and *granite* from the hills of Vermont.



MODERN MEANS OF COMMUNICATION

Here we see a group of skilled workers and executives keeping watch over the toll lines in a large telephone exchange. At regular intervals each line is tested to prevent interruption of service. (See page 207.)

Many of the fixtures, too, in a modern building are manufactured at points far distant from the location of the building and brought to the spot ready to be placed in the positions determined by the architect. Under such conditions the successful modern builder is both a constructor and an all-round busi-

ness man. He will have complete designs from the architect, and his work will consist principally of directing large numbers of trained workers who



A BUILDING TRADE  
What training level?

specialize in some one of the building trades such as :

excavation, masonry, structural iron work, cement work, brick and terra-cotta work, plumbing, gas and steam fitting, electrical installation, carpentry, sheet-metal work, lath work, marble and tile setting, plastering, painting and decorating, and paper hanging.

**The Process of Construction.**— Every modern building of any considerable size is the result

of certain standardized processes, most of which are mentioned in the preceding list of trades. The first of these processes is the work of the *architect*. The person desiring to build usually consults an architect, who draws in detail the building plan and specifies the materials, construction, and time allowance. The architect or members of his staff inspect the building regularly during construction and see to it that the building specifications are followed.

After the architect has prepared his plans, general

contractors are invited to submit their bids for the work. These bids state the price which the contractor will charge for his services in case he is awarded the contract. They include the cost of materials, labor, and all other items connected with the construction. The contractor guarantees to do the work within the time and for the price stated in his contract. Very often the general contractor subcontracts for such work as excavation, plumbing, gas fitting, and installation of electrical equipment.

From this point on, you are somewhat familiar with the work of constructing a modern building. You may be living in a community where it will be quite easy for you to observe at first hand the several processes named on page 196. You can, at any rate, learn much about them from your library or from some builder. If your school offers try-out courses in some of the building trades, some of the pupils who have taken those courses may be persuaded to describe the vocations to your class. Every one of the building trades overlaps with others, and so class reports concerning them must be especially well-prepared, if the distinctive features of each trade are to be made clear. You can learn much about the building industry in one or two periods devoted to such reports.

**Workers in the Building Trades.** — The work of the little-skill level is found in all the building trades, but here again it is of interest mainly as it points to more profitable vocations. It does, however, often promise more immediate success and better



pay to men who have not had special training than almost any other work.

The intelligent *helper* or *apprentice* in the building trades can usually win early promotion in his little-skill occupation, which leads soon to work on the



BUILDERS AT WORK

What other pictures in this book suggest the work of the building trades?

skilled level. The helper in the building trades is a skilled mechanic's assistant. If he watches while he works, sticks to business, and takes evening or continuation school courses, he will advance rapidly in his vocation. With sufficient experience and study, he may even attain the science level, though he has not had the advantages of technical school.

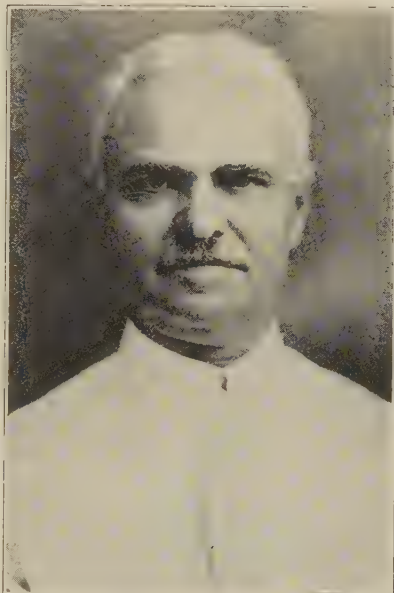
The most remarkable feature of the building trades is that they cover such a wide range of interests. If a boy likes things electrical and has clever hands, the building industry will give him opportunities for becoming an electrician. If he has mathematical ability and drawing skill, he may like the work of a draftsman, with a good prospect to qualify later as

## George Washington Goethals

A man went down to Panama  
Where many a man had died  
To slit the sliding mountains  
And lift the eternal tide;  
A man stood up in Panama  
And the mountains stood aside.<sup>1</sup>

This man was George Washington Goethals, a graduate of West Point, and an army engineer. He was appointed in 1907 as Chief Engineer for the building of the Panama Canal after Ferdinand de Lesseps, a famous French engineer, had given up the attempt. He brought to his task experience gained through a series of splendid construction enterprises. Bridges, irrigation ditches, dams, and military fortifications scattered throughout the United States and its possessions already bore silent witness to his great engineering skill.

In Panama, much of his work had to do with other problems than those of the steam shovel and drill. Disease had to be combated, the loyalty of subordinates had to be won, petty problems of the community life had to be settled, and many other lesser matters had to be considered before the oceans could be joined. Landslides, oppressive weather, stubborn rocks, all added to the difficulties of his work. The canal was officially opened in 1914. Goethals had accomplished the impossible!



<sup>1</sup>From *Goethals: The Prophet Engineer*, by Percy Mackaye, by permission of The Macmillan Company, publishers.

an architect. If the power of steam fascinates him and he has a natural knack of working with machinery, he may become an expert steam engineer with a thorough knowledge of steam shovels, derricks, and excavation work. There are so many varieties



THE POWER OF STEAM

Here is an illustration of the building industry engaged in a public-utility enterprise. The engineers are completing the installation of water mains in the water supply system for a large city.

of work on the skilled level of the building industry that almost any boy with mechanical ability and interest can qualify in time for a position which will make him a *skilled mechanic* or a *journeyman*, as the skilled mechanic is sometimes called.

**The Science Level.** — The *architect*, the *construction engineer*, and *heating, ventilating, electrical*, and



A MASTERPIECE OF AMERICAN ARCHITECTURE

*sanitary engineers* represent occupations on the science level of the building industry.

The architect is the master craftsman of the industry. For a time, after the period of standardization of materials and equipment had set in, it seemed as if all American buildings were being constructed on the same pattern. The architect was little more than a skilled draftsman with scant consideration for anything except usefulness in his designs. The Machine Age blinded Americans to the value of artistic standards in building. In recent years, however, this situation has changed.

To-day American architects are designing cathedrals, churches, schools, houses, and office buildings which, though specially adapted to their locations and the needs of their prospective occupants, are of high artistic merit. Even more important, our modern architects are producing designs so distinctly American in character and so charming in results that we need fear no longer for the safety of art in the American building industry.

Architecture combines, in one profession, some knowledge of the practical work of all the building trades and almost unlimited opportunity for artistic creation. Financial rewards are very high for the successful architect, and his feelings of pleasure in the products of his creation are those which come to all true artists.

The heating, ventilating, electrical, and sanitary engineers represent a group of specialists whose training places them too on the science level of the build-



*Photograph by City Engineer, San Francisco*



*Ferro Concrete Construction Company*

# THE WORK OF THE CONSTRUCTION ENGINEER — (1)

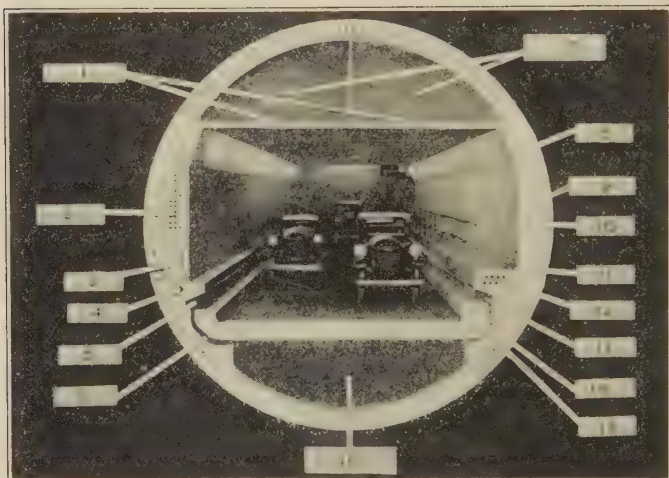
*Above:* Construction of the Moccasin Power Plant, one of the important hydro-electric power developments in the Sierra Nevada Range.

*Below:* "Chattering clamor of steam shovels."





*Keystone View Company*



*Keystone View Company*

### THE WORK OF THE CONSTRUCTION ENGINEER—(2)

*Above:* A bascule trunnion bridge. The lower deck is for vehicular traffic; the upper for the rapid-transit trains.

*Below:* The Hudson River Vehicular Tunnel: (1) and (7) ventilators; (2) telephone and telegraph cables; (3) fire extinguisher; (4) water main; (5), (6), (13), (14) and (16) fresh-air system; (8) and (9) tunnel segments; (10) wall; (11) sidewalk; (12) power cables; (15) road base.

ing industry. Very often their work is of a purely advisory nature, and there is good reason for classifying them under the professions. However, their work has to do so much with materials and equipment used in the building industry that we may consider them here. When special problems arise from peculiar local conditions, the expert is called in for advice and perhaps is engaged to direct the process of construction in which the problem has arisen. There are good vocational opportunities in all of these special branches.

The construction engineer is the general superintendent of construction in any large building enterprise. He must be somewhat a civil engineer, for his interests range from construction of bridges, dams, roads, levees, aqueducts, sewers, reservoirs, and the like to the building of huge, steel-framed skyscrapers. His work is as dramatic and thrilling as that of the mining engineer and, as in all kinds of engineering, calls for great resourcefulness.

The construction engineer is responsible for the estimates which his employer, the general contractor, submits in bidding for a construction job. Once the job is awarded, it is his duty to solve the problems in excavation and construction. He must be qualified to manage all phases of the work, such as purchase of materials, direction of labor, and supervision of equipment and construction.

For one who likes to build as well as plan, who loves the banging of hammer and ripping of saw, who enjoys the chattering clamor of steam shovels and

the hammer of pneumatic riveters, who above all knows how to lead men by example as well as by command — for such a person the vocation of construction engineer is ideal.

The building industry is primarily a man's field, though here and there we find successful women architects, contractors, and draftsmen. Interior decorators, too, have many women in their ranks, and allied office occupations are frequently speeded up by the technical knowledge which their women workers have acquired in the course of their duties. Therefore, some of the girls in your class may also gain vocational guidance from this study.

## 2. PUBLIC UTILITIES

**What Public Utilities Are.** — With the growth of large towns and cities, certain common wants of the public have come to be supplied by private companies acting under licenses or charters from the local, state, or federal government. The services rendered by such companies are called *public utilities*. They provide telephone and telegraph service; transportation by land, sea, or air; heat, light, power; and other services upon which the public depends.

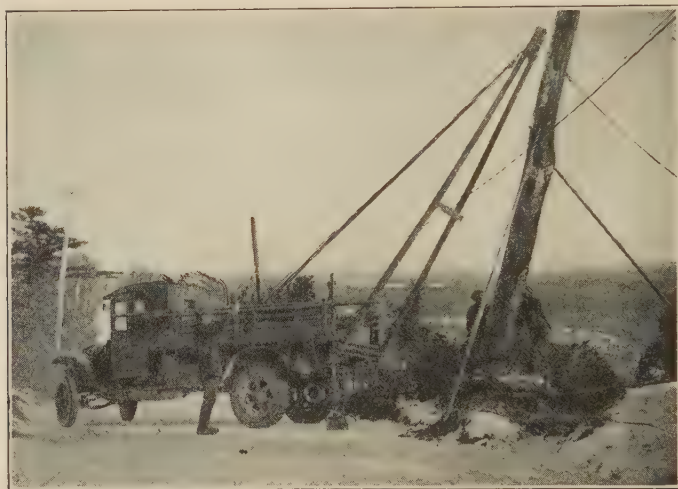
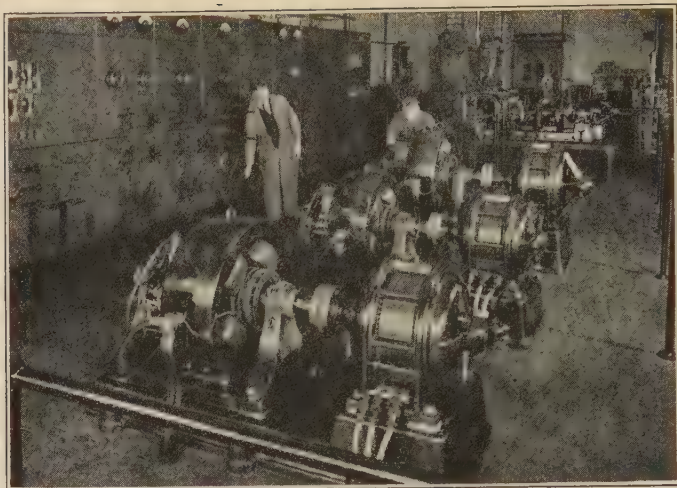
In this division of industry are also certain services usually performed by local and state governments rather than by private companies, such as water supply, sewage disposal, road building, and park development. The federal government also operates a few services, such as the postal service, canals, and irrigation dams, which belong in this



THE TELEPHONE INDUSTRY — (1)

*Above:* Operators "on the job."

*Below:* A dial exchange — automatic operators. See also the illustrations on pages 184, 195, and 208, all of which are used through the courtesy of the New England Telephone and Telegraph Company.



### THE TELEPHONE INDUSTRY — (2)

*Above:* The terminal room in a central office.

*Below:* Installing a pole with a pole-lifting derrick. All training levels are represented in this public utility — by linesmen, electricians, operators, office workers, laborers, and executives.



classification. We shall examine several public utilities which may help you to choose a vocation in this beneficial and necessary field of work.

**Communication.** — At home, at school, and in your dealings with the stores, you have daily evidence of the important part played in your life by the telephone. Once in a while you realize the importance of the telegraph, and if you live in a large town or city, the hurrying messenger boys are so common a sight that you give little heed to them or the varied interests they serve. Perhaps you have a brother who is an expert telegrapher or a trouble-shooter for a telephone company, or you may have a sister who is an operator in your local telephone exchange. If so, you can give the class a worth-while account of the occupation.

Day and night, rain or shine, doctors have to be summoned, policemen and firemen called, important messages sent — a hundred and one matters of life and death must be handled by the aid of speedy communication. We rarely think of the thousands of workers who make it possible for us to call whomsoever we wish, whenever we wish, but they are always “on the job.” Opportunities for a life career in this field are so numerous that a large book would be needed to describe them all. You can, however, gain much information about them from a few good class reports. There have been many books written on the subject, and perhaps some of you can get hold of trade periodicals published by telephone, tele-



graph, or radio companies which tell of the activities of their employees.

**Transportation.** — Another branch of public service that you are well acquainted with is transportation in its many forms. Railroads, street cars, elevateds, subways, motor cars, ocean liners, airplanes and airships, and other more humble modes of transportation are so much a part of our modern life that we can easily study their relation to the world of work. As a matter of fact, the activities of transportation companies offer a good cross-section of all vocations, for large railroad and steamship companies employ agricultural and freight agents, professional men like doctors and lawyers, business executives, industrial agents, and even the home-making specialists who look after the meals and personal comfort of the traveler. The types of transportation and the qualifications for occupations in this field are so varied that your decision about them as vocations should not be hastily made.

The duties of the workers can only be suggested here, but careful study of this field will show its marvelous development since the days of the stage-coach. Wheels, propellers, steam, electricity, gasoline, helium, hydrogen, gears, levers, road beds, garages, channels, mooring masts, and landing fields are only a few of the thousands of aids by which man is constantly reducing distance and saving time. The surveyor, navigator, locomotive engineer, pilot, conductor, ship captain, purser, motorman, dis-



RAILROADING — (1)

*New York Central R. R.*

Towermen, switch hands, car cleaners, oilers, track walkers, track repairmen, construction laborers, brakemen, conductors, firemen, telegraphers, foremen, machinists, round-house employees, ticket agents, and a large number of other workers find their vocation in this industry. All training levels are widely represented.



RAILROADING — (2)

*Keystone View Company*

patcher, towerman, and allied workers like the porter, chef, and steward represent the wide range of occupations necessary to keep rails clear, motors humming, and trains, ships, buses, and planes equipped to serve. We mention them here to suggest lines of study which will show whether you wish to become one of the thousands of workers who carry the world about its business.

Probably many of you will find places in this field, but do not think, because you are thrilled by the rush of a locomotive, that you will necessarily make a good engineer. Do not consider yourself qualified to be an aviator just because you want to fly. Every job has its attractions and its drawbacks, and the urge to fill a good position is a fine thing, but you must have the necessary qualifications to do well the work of any job. Every one may become qualified for some worth-while position.

Find out what makes a good locomotive engineer, a good sea captain, a good airplane pilot, and if you can measure up to the standards required by any one of these occupations, give it special study. If you know that you would soon tire of the smoke, noise, and responsibility ; if you feel that you might grow careless under the routine of following the same old run, year in and year out, you are not cut out for an engineer.

*Be careful to distinguish between the appeal of novelty in a job and the factors which are required for success in it.* The latter are the true guides to wise vocational choices. Here is a good place to make

this point, because there is something about transportation which appeals to everybody. Although this is true of other occupations it applies particularly to transportation.

The lure of long ocean voyages and the steady, swift flight of an airplane, the powerful drive of a locomotive and the ceaseless hum of a steamer's engines all have a magic charm that glosses over the actual details of duty which make transportation effective. Be sure to find out what these details are before making a decision to enter this field for your choice of a vocation.

Class reports on this branch of industry should be numerous and very interesting. Many of them can be put into story form, illustrating some vivid and characteristic experience of a worker, who, though he may be the humblest section hand of a railroad or the highest-paid pilot in the air-mail service, has done his part in "getting the mail through."

**Heat, Light, and Power.** — What happens in your community when a thunderstorm puts the electric lights out of commission or a gas main breaks? Who puts up the wires and lays the pipes which supply your home, and factories too, with electric light and power and heat from gas? Who makes electricity and gas? These questions introduce you to a third class of public utilities without which the modern city would be quite helpless.

Vacuum cleaners, washing machines, milking machines, sawmills, factory motors, radios, automo-



THE PROGRESS OF TRANSPORTATION — (1)

The electric car and rapid-transit lines have long since replaced the quaint horse car of earlier days. Now de-luxe buses are competing with all other types of land passenger carriers.





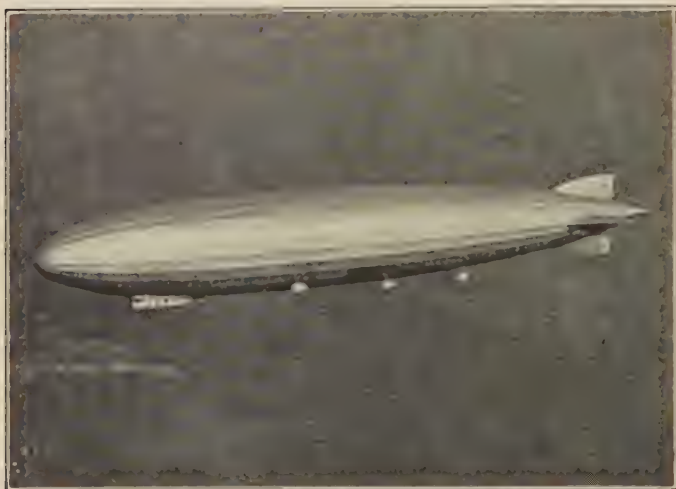
THE PROGRESS OF TRANSPORTATION — (2)

*Cunard Line*

The days of the schooners are nearly ended. How long will it be before their rivals, the ocean liners, are replaced by "monarchs of the air"? Below you may see sea freighters, tow boats, ferries, fishing smacks, and yachts — requiring workers on various training levels

bile batteries, and dozens of other useful devices, which make our lives more comfortable and our factories more efficient, depend on the services of our heat, light, and power companies. The mere mention of the many services rendered will direct your attention to the occupations which produce these services. This text does not discuss them in detail because first-hand information is so easily available. Nearly every community has local offices of gas and light and power companies. Go to your local office and ask for permission to inspect the plant and study its activities if it is near by, or get your information from the office employees. Your class may wish to invite a representative of the company to speak to it on the work of his organization; be sure to follow up his talk with your own ideas based on the outline found on page 25.

In considering public utilities as a possible line of work, you should note that they employ many of the workers that we have already studied. For example, practically all public-utility companies need construction engineers to supervise the building and maintenance of power plants, water and gas systems, sewage-disposal plants, and the like. So, too, electrical engineers, machinists, office workers, chemists, and even doctors and lawyers may find employment in this field. Every public utility has also distinctive occupations of its own such as that of the locomotive engineer or the sea captain. From this, it is plain that, when you finally choose your vocation, you may find yourself employed by some public-utility



### MONARCHS OF THE AIR

Aviation, as an industry, is in its youth, but already employs thousands of workers devoted to its exclusive service. The upper picture shows a remarkable product of airplane design, the Sikorsky Amphibian, which Lindbergh used to open the Pan-American mail service. Review the illustrations on pages 8, 19, 20, 123, and 135, and the quotation on 193.

company even though your work may be classified under another heading. The questions and *Field Studies* at the end of the chapter will help you to keep this distinction clearly in mind.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

In this chapter you are cautioned to study carefully the details and duties of certain vocations which may appeal to you simply on account of their novelty. It is dangerous to choose first and think afterward. Have your guidepost sign point the way to a wise choice.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) Cut from a newspaper a clipping in which a contractor's bid has been accepted by a big concern.

(2) Cut from a magazine pictures of attractive houses. Write under each the style of architecture.

(3) Obtain pictures of some of the skyscrapers in our largest cities and paste them into your scrapbook.

(4) Cut out of magazines or newspaper supplements illustrations of all the different kinds of transportation you can possibly find.

(5) Perhaps you can find pictures of a few of the men who help to carry the world about its business, that is, pictures of workers in the world of transportation. They are the servants of the public, and may be grouped under such a title.

### THINKING THROUGH

1. Name all the raw materials you know of which are used in making buildings.
2. List the different workers who are employed from the time a cellar is dug until the finishing touch is put on a building.



*Keystone View Company*



*Keystone View Company*

#### HEAT, LIGHT, AND POWER

*Above:* The control room of the Niagara Falls Power Company.

*Below:* Water entering the interior of the plant for its drop of 212 feet to the turbines. Remember to fill in the workers and to consider the three training levels.

3. What is the work of an interior decorator? What qualities must one possess to be successful?
4. What kind of work does a landscape architect do? What qualifications must he have?
5. What is the highest building in New York City? Of what advantage is it to build skyscrapers?
6. What industries in your community are controlled by the local, state, or federal government rather than by private companies?
7. Compare the development of commercial aviation in this country and in Europe. Which is the more advanced and why?
8. Name several aids aside from those mentioned on page 210 for reducing distance and saving time.
9. What positions would be likely to attract people by their novelty? Tell why each of these might not be as attractive for steady employment.
10. Following the suggestion on page 214, prepare a class report on the experiences of some worker in the field of transportation. Perhaps you can find an account of one who has been a hero.
11. Visit and inspect a power plant and study its activities. Make a list of occupations which are available if you wish to serve some heat, light, or power company.
12. The Panama Canal is one of the world-famous examples of time-saving and distance-saving schemes for transportation. It was built by American engineers who had to brave tropical dangers and diseases. Read of the heroic work of Goethals, who directed the enterprise, and tell the story to the class.

#### FIELD STUDIES

1. Obtain, if possible, a blueprint showing the work of an architect. Notice carefully the features which reveal the architect's skill.
2. Read an account of how the pyramids of Egypt were built. If they had been built in this present age, what different methods would have been used?



3. Examine a new building in the process of construction. Watch the workmen at a certain job for a few minutes and see how much skill is necessary to perform that work. Could you do it after a little practice? Is there a "boss" in charge? If so, what seem to be his particular duties? How many men are at work? What are their working hours? Would you enjoy being employed in building construction? Why or why not?
4. Interview an employee of the local telephone company and find out the information asked for on page 25.
5. Visit a telephone exchange and report on the equipment and the work of the employees.
6. Make a class report on one or more of the occupations represented by the workers mentioned on page 196. Follow the outline on page 25.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*The Boys' Life of the Wright Brothers* by Mitchell V. Charnley

*Stories of Industry* by Annie Chase and E. Clow

*Boys' Book of Railroads* by Irving Crump

*Stories of American Inventions* by Inez N. McFee

*Heroes of Today* (George Washington Goethals) by Mary R. Parkman

*The Young Surveyor* by John T. Trowbridge

##### 2. *Other References*

*Trade Foundations* (pages 79-97) by R. H. Rodgers and others

*Vocations in Industry* (book iii) by May Rogers Lane

*Success through Vocational Guidance* (chapters x and xi) by James McKinney and A. M. Simons

*Transportation* by W. F. Rocheleau

*The Building Trades* by F. L. Shaw (Cleveland Education Survey)





"HOME-KEEPING HEARTS ARE HAPPIEST"

"Peace and rest at length have come ;  
 All the day's long toil is past ;  
 And each heart is whispering, ' Home,  
 Home at last ! ' "

—THOMAS HOOD

## PART IV — THE FIELD OF HOME MAKING

### CHAPTER X

#### FAMILY HOME MAKING

*O fortunate, O happy day,  
When a new household finds its place  
Among the myriad homes of earth.*

— LONGFELLOW, *The Hanging of the Crane*

#### 1. THE MATERIALS OF HOME MAKING

**Home.** — A *house*, in itself, is simply so much wood or stone, so many nails, so much plaster, and so much metal all arranged according to pattern and joined together to form foundation, walls, and roof. If these materials make simply the house, what makes a *home* of such a building?

If your home is a real home, whether it be a “lowly thatched cottage” or a mansion, you know from experience that it is home for you because of the people who make it so. Their interest in you, their concern and affection for you, their sympathy with your joys and sorrows — all these elements of intimate family life have a part in home making.

Home, then, is not just a place in which to eat and sleep, to secure shelter, and to keep your possessions.

It is a household formed of, by, and for the family — a center for the development of all those finer habits of living which make men more than animals and show that they have souls. The home is to the soul what food, care, and shelter are to the body. Whatever your main work in life may be, these two chief factors of living, the welfare of the body and the welfare of the spirit, will play the most important parts in your career.

**Two Kinds of Home Making.** — Thus far we have been thinking of the kind of home with which most of us are acquainted, but there is another kind which we must consider, else we should be leaving out a wide range of vocations. We all know of unfortunate people, such as orphans or foundlings, who have no family ties, or of people who, because of sickness or other reasons, must live apart from their families, or of still others who are unable to earn enough money to maintain a decent home successfully. These people, who have no family home, live in hotels or boarding houses if they have the means to do so; the dangerously sick live in sanatoriums or hospitals; the poor live in asylums (now more happily called homes) such as orphanages, homes for the aged and helpless, town “farms,” and so on. The homes of this second class are called *institutions* and have almost as much need of workers skilled in successful home making as has the family dwelling.

The “home” element in an institution depends

upon the skill and good spirit of its managers, but just as in the family home, it may be anything but a home if its managers and members are selfish, lazy, or ignorant. There is no such thing as an unhappy home, even though the home may be visited by sorrow and poverty, for a home that is unhappy is not



INSTITUTIONAL HOME MAKING

Home making is an important part of the service in every hospital.

a real home according to our definition. Just so, the institutional dwelling becomes a real home if its members are warm-hearted, sympathetic, and considerate of one another, and coöperate in the activities of the institution. It may be difficult at first for you to think of a hotel as a home, but in the next chapter you will discover how it is possible to establish a hotel home. In this chapter, we shall study the art of *family home making*.



## 2. THE FAMILY HOME

**Physical Comforts.** — On page 225 it was suggested that the providing of food, care, and shelter for the body is a part of home making. Good meals, clean clothes and linen, clean floors and furniture, pretty and tasteful furnishings, healthful habits, and facilities to guard health are vitally necessary in the best kind of home building.

No matter how humble the dwelling and poor the family, these factors of happiness in the home are increasingly available in modern America. But they may not be secured without knowledge. Your school is one of the chief sources of this knowledge. The education thus received is so valuable that your parents are willing to pay large sums of money in taxes in order that all children alike may benefit. They pay these taxes because they realize that anything which helps or improves family life improves the whole society.

**Some "Homes."** — Did you ever see a "home" like this?

"Ma, Bill is kicking me!"

"No, I ain't, she did it first!"

"Ma" comes downstairs, boxes both on the ears, scolds for a while, and then goes back upstairs to her sewing. She is making a Sunday dress for Susan. The sleeves just won't go in right. She tries this way and that, makes another trip or two downstairs to settle disputes there, and then — "Pa" comes home.



*Keystone View Company*



#### PROGRESS IN HOME MAKING

The humble, old-fashioned kitchen (above) is still preserved in the cottage of Edgar Allan Poe, New York City. It offers sharp contrast with the completely equipped kitchen of the modern housewife.

“ For heaven’s sake, where is the supper? ”

The house reverberates to the sound. . . . Have you seen “ homes ” like this? If so, you know why the quotation marks are here used about the word.

It is only in recent years that the art of home making has been generally recognized. That is why we still find many “homes” of the above type, where the parents have not yet attained the science level. That is why, too, parents are studying home problems as never before. One of the things all families should learn is that the mother is but *one* of the home makers — that too frequently father and children have been leaving the home-making job to mother. The babyhood habit of “howling” for food becomes gradually but surely the habit of expecting the mother in the home to do anything we ask if we howl long enough. Howling is poor home making.

**Boys and Home Making.** — If you are a boy, and if it so happens that you are a home howler or, at least, have been more or less a failure in your home-making responsibilities and opportunities — if the service idea has not yet made a start with you, you still have a chance. For junior high school citizens are still young enough to turn poor habits into good ones if they really want to change them.

Start with one new good habit. Probably the job at which you have been most a failure is putting things away when you are through with them. Force yourself to hang up your clothes where they belong, to put away your baseball equipment, fish pole, tools,



*Keystone View Company*

#### BOYS AND HOME MAKING

The upper picture is furnished by an organization which is devoted to the service of those who are interested in home making. It is called *Better Homes in America*: address communications to the Executive Director, Washington, D. C.

and other possessions, and try to keep them in good condition. It is just as wrong for you to give your shirt and pants a sling in the general direction of a chair when you remove them at bedtime as it is for you to do your school work "any old way." Slovenly habits are poor home making whether they have to do with caring for tools or with such matters as washing your neck and ears or brushing your teeth.

You may be called upon to take charge of the dishwashing now and then — "massaging the crockery," one ex-junior-high boy calls it. If you are a poor home maker, you may try to escape such work by saying, "It isn't my job," but not if you are aiming to do your part to make your home a happier place for yourself and others. That service idea again! In fact, this is so important an element in home making that some schools are teaching boys the simpler aspects of cooking, sewing, and house care. The boys who have taken these courses have learned that such work is not by any means the "sissy" task that many of them thought it. Then, too, some of them have discovered that hotels, clubs, and other institutions pay high wages to chefs and stewards, who are usually men. Thus, if you are a boy and like to cook, you need not feel ashamed of your liking, for it may turn out to be just as important a vocation as many others which you have already studied.

Being interested in what interests the other members of the family is probably the biggest job of the man in his home. More than anything else it keeps

the home happy and the folks in it together. His training for this task starts in boyhood, and success or failure in his own home later depends in no small measure on his start in childhood, and his contribution to the home in the junior high school years.

**The Personal Side of Home Making.** — The most important part of home making is learned not in a shop, or in a cooking or sewing class, but in *living in a home*. This means doing your bit even though at the moment you want very much to be doing something else. Out of such service on your part, that doing for others as well as for yourself, comes a richness in your personality that will attract friends of the right kind to you, now and later. In later years you will be the center of a real home.

*A Heap o' Livin' <sup>1</sup>*

It takes a heap o' livin' in a house to make it home,  
A heap o' sun an' shadder, an' ye sometimes have t' roam  
Afore ye really 'preciate the things ye lef' behind,  
An' hunger fer 'em somehow, with 'em allus on yer mind.  
It don't make any differunce how rich ye get t' be,  
How much yer chairs an' tables cost, how great yer luxury;  
It ain't home t' ye, though it be the palace of a king,  
Until somehow yer soul is sort o' wrapped round everything.

Both children and parents are responsible for this part of home making. Other tasks may be divided, but this one must be shared by all members of the family. The more you know about home duties other than your own, the better prepared you will be

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<sup>1</sup> From Edgar A. Guest's *Making the House a Home*, copyrighted by The Reilly and Lee Company, Chicago.



to give a helping hand when it is needed. It is fair enough for boys to look after the household mechanics like repairing door steps or renewing washers in the faucets, but the real test as home makers comes



GIRLS AND HOME MAKING

Compare with the illustration on page 44.

when mother or sister is sick. Then is the time that a boy's ability and willingness to wash dishes, cook meals, and clean house count for good home making. The boy who develops skill as a home helper is anything but a "mollycoddle." In the same way, the girl who, in time of need, can repair the vacuum cleaner or clear the sink pipe or shovel the snow from the paths or mow the lawn is not

necessarily a tomboy. The will to help and the ability to do make for right home living.

**Girls and Home Making.** — This subject of home making has more significance for girls than the study of other occupations because most girls, even at your age, are planning, vaguely perhaps but none the less

certainly, for homes of their own. But life is so uncertain in its development that every girl should be prepared for at least one occupation in addition to that of home making. (See page 16.)

*An "If" for Girls<sup>1</sup>*

If you can dress to make yourself attractive  
Yet not make puffs and curls your chief delight ;  
If you can swim and row, be strong and active,  
But of the gentler graces lose not sight ;  
If you can dance without a craze for dancing,  
Play without giving play too strong a hold,  
Enjoy the love of friends without romancing,  
Care for the weak, the friendless, and the old ;  
If you can master French and Greek and Latin,  
And not acquire as well a priggish mien ;  
If you can feel the touch of silk and satin  
Without despising calico and jean ;  
If you can ply a saw and use a hammer,  
Can do a man's work when the need occurs,  
Can sing when asked without excuse or stammer,  
Can rise above unfriendly snubs and slurs ;  
If you can make good bread as well as fudges,  
Can sew with skill and have an eye for dust ;  
If you can be a friend and hold no grudges,  
A girl whom all will love because they must ;  
If sometime you should meet and love another  
And make a home with faith and peace enshrined  
And you its soul — a loyal wife and mother —  
You'll work out pretty nearly to my mind  
The plan that's been developed through the ages  
And win the best that life can have in store.  
You'll be, my girl, a model for the sages —  
A woman whom the world will bow before.

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<sup>1</sup> By Elizabeth Lincoln Otis.

The *housewife* is the one worker in the world who determines the character of a home, and every girl should make her plans with the expectation that her principal occupation in life will be that of a home maker. Most schools recognize this and do all they can to prepare girls for success in the vocation of home making. It does not mean, however, that girls should not be interested in other occupations. Those who will never marry should be equipped to support themselves, and many of those who do marry will need work of some sort between the time they leave school and the time of their marriage. As we study the duties of the efficient and successful housewife, the girls in the class will discover many places in their present home life where they can lighten their mothers' work and bring added cheer to the home circle. They will also gain a good idea of the three levels in home making.

**The Housewife.** — Have you ever stopped to consider what a large number of tasks the housewife must perform daily? Meals must be cooked and served, dishes washed, clothes mended and laundered, furniture and floors cleaned, beds made, children cared for, doorbells and telephones answered, fires tended, and a hundred and one other tasks which come to hand in the course of a single day must be performed.

Who takes care of you when you are sick? Mother. Who comforts you when something has gone wrong, who protects you against trouble, who

## Mrs. Theodore Roosevelt

Mrs. Roosevelt's girlhood training prepared her for life as a social leader and as a home maker, but it was as a home maker that she excelled. When she entered the White House, as the wife of a famous president and mother of five growing children, she was determined that it should be a home, not a public building — and she made it so.

Although she had many servants in her charge, she was familiar with every detail of the household management. Her daughters were trained to love and care for the home as she did.

Her family always came first in her life. She was a real companion to her children, making their interest hers. Many Saturdays were given up

to accompanying the boys to the Natural History Museum and, on school-days, she drove with her daughter to school and back in a pony-cart.

Mrs. Roosevelt made an ideal wife. She was ready at a moment's notice to ride horseback or take a tramp out into the country with her active husband. When he was weary from the constant press of duties, she read to him or played the piano for him. She made a charming and hospitable hostess to his friends. In the midst of a busy life, with many duties demanding her attention, she never lost her spirit of quiet happiness. She was a constant source of inspiration to her husband. He was once quoted as saying: "The greatest thing for any woman is to be a good wife and mother." His wife achieved this "greatest thing."



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plans for your entertainment and works for your happiness? Mother does all these things, often when she is tired or sick. To be sure, Father has a big hand in making home a success, but while he is away earning the money to keep the family together, Mother "carries on" in those tasks which actually make the home. She knows that her children must first of all have healthy bodies if they are to have healthy minds; they must have a happy home, if they are to have happy hearts; and they must have high ideals if they are to be good citizens. How does she accomplish these purposes? Let us see, so that we, both boys and girls, may know how to prepare for our own future homes.

### 3. TRAINING FOR HOME MAKING

**What Education May Contribute.** — On page 230 it was suggested that there is a science level in home making just as there is in any other vocational field. How can parents look after the bodily health of their children unless they know the general laws of hygiene and science? How can they care for the mental health of the family unless they are familiar with the factors which underlie mental activity? How can they cultivate love of art, music, and literature in their children unless they themselves are acquainted with these interests which have been called "the food of the soul"?

**Why Training in Home Making Is Needed.** — Because of the wide range of human activities in-

cluded in the home, you can readily understand that, next to love of family, education is the most important factor in home making. Many people still believe that love, food, and shelter are all that are needed to make a successful home. Such a view is



EDUCATION IN HOME MAKING

The Red Cross dietitian is teaching these children what foods make the best bodies.

all right as far as it goes, but modern life is so complex that these conditions no longer satisfy the requirements of the best home making to-day. They were quite sufficient in primitive times, but the radio, good books, newspapers, improved transportation, and all the other gifts of invention and discovery have changed our life so completely that our homes must be adapted to the change. Therefore, education must lend its aid.



**The Three Training Levels.** — If education is really needed for success in home making, we shall find several kinds of home making which may be classified on the little-skill, the skilled, and the science levels. The least skilled type of home reveals uncleanness, wasted money, and poor taste in furniture and clothing. The mother probably means well and does her best according to her ability. The father, too, contributes to the family welfare to the best of his ability, but the family suffers, without realizing it perhaps, from the ignorance of the parents. We rightly call such an establishment a home, if it has the essentials of family love and loyalty. In other words, it has a soul in spite of its drab dress.

In the home on the skilled level, we find the cooking, sewing, and housecleaning carefully done, the children properly washed and disciplined, the yard neatly kept, and the family ideals of citizenship high. Such a home has everything except the culture which higher education gives — the culture which comes with a knowledge of the fine arts and an understanding of history and the sciences. The children in such a home will see some of the advantages which their parents have missed and so provide in the second generation those elements which make for a home on the *science level*.

The parents in the home on the science level have learned the laws of hygiene and will see to it that as far as possible their children have sound minds and bodies. They will know how best to direct the

development and training of their children because they will have studied the science of child care. The mother will know how to make the home attractive because she will have studied home economics, home hygiene, and household management. As the fruit of their general education, the parents may have a good library, music, good pictures, tasteful furniture, and neat clothing. The language of the home, the family interests, and the family habits will all reveal the marked influence of education and culture. The people in this kind of home will live fuller and better lives because of their advantages.



ART IN HOME FURNISHING

The interior decorator is a welcome worker in modern home making.

**The Servant in the Home.** — So far in this discussion no mention has been made of the part played by servants in the upkeep of many homes. Their relation to the family circle varies all the way from the informal, mutually helpful association of the rural home where the "help" is "part of the family" to the highly disciplined, formal service of the

aristocratic establishment in the city. Supervision of servants is an important part of the household management of many homes.

In recent years there has been a marked reduction in the number of family servants. This has come



"COME IN"

The landscape gardener and his assistants are important contributors to the field of home making.

about chiefly for two reasons: (1) the great increase in labor-saving devices for the home accompanied by a tendency to concentrate large parts of the population in apartments, and (2) the enlarged opportunities for employment at good wages and short hours in industry and business. Because of these changes, the average modern household servant demands much more independence, more

wages, and better working conditions than formerly.

Expert housekeepers, gardeners, superintendents of estates, cooks, stewards, butlers, and similar workers of the household receive good pay, have work on the skilled level, and are independent. Very often, their long-continued association with the

family whom they serve establishes a mutual feeling of affection and respect which places the servant on a basis of friendship with the family.

**Occupations Allied to Home Making.** — There are a number of occupations which had their origin in some of the simple home duties but now find their place in business, professions, or industry. Among these we find the work of chefs, laundrers, dressmakers, milliners, interior decorators, gardeners, nurses, governesses, tutors, food specialists, superintendents of buildings, caterers, tea-room managers, and miscellaneous specialists such as bakers in institutions. The



"DOUGHNUTS — UM-M-M!"

Would you like to be a baker? Appetite and work are two different things.

very names of these occupations are sufficient to indicate their relation to home making. They are important to our study because they suggest lines of work which would be pleasant to some of you. Who knows but that some one of you girls may, in your home making, have unusual success with a certain kind of jelly or with a recipe for cake which will so delight your family and friends that the product may

prove attractive as a commercial proposition? Or perhaps one of you boys will develop such skill in gardening that your future as a professional gardener or landscape architect will follow naturally. The possibilities here suggested illustrate a large number



SWEETS IN THE MAKING

Is there any relation between this industry and home making?

of vocational try-outs which you can easily make at home. Because they are right at hand, do not overlook them.

#### MY GUIDANCE SCRAPBOOK

##### 1. *My Guidepost*

There are ever so many hints in the text of this chapter for excellent guidepost signs. Choose one which will show the importance of happy home making in every one's life. Two well-known quotations which would serve are "Home-keeping hearts are happiest" and "Home is where the heart is."



Do not use either of these for your guidepost. They are merely suggestive.

## 2. Chapter Information

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

## 3. Scrapbook Suggestions

(1) If you have a snapshot of your family, paste it in your scrapbook. If not, ask some one outside your family to take a picture of the family group. They are the center of your home life. Think of a suitable title to put under the picture when you paste it in your scrapbook. If you can secure also an attractive snapshot of your house, it too will serve to illustrate this chapter well.

(2) Make a list of five tasks which a twelve-year-old girl could do to help her mother, and five which a twelve-year-old boy could do to help keep the house in good condition.

(3) Make a list of the qualities a girl should try to develop if she is to live up to the ideal described in the poem *An "If" for Girls*.

(4) Draw a floor plan for a kitchen which will be a time-saver and a step-saver for the busy housewife. (Do not put the supply cupboard at the other end of the kitchen from the cooking table!)

(5) If you are to do your part in happy home making, you must do your best to keep in good health. Write in your scrapbook ten health rules and live up to them every day.

(6) Plan a housewife's time for one day. Let us say that she lives in a six-room bungalow and has two children, two and four years old.

## THINKING THROUGH

1. What duties in the home would you undertake if your mother were sick? if your father were sick?
2. What lines in *An "If" for Girls* refer particularly to the girl as a home maker?



3. What courses in the junior high school curriculum will be of definite help to you when you take up home making as a vocation? Explain what contribution each study makes.
4. Wasting money in household management is one of the indications of home making on the little-skill level. Give definite instances of how money is often wasted.
5. What qualities should a woman have to be a good home maker? What qualities should a man have to be a good home maker?
6. Why does a better education for a girl usually mean a better home?
7. What inventions and discoveries have made our homes approach more closely the skilled and the science training levels?
8. What actual help in home making is given over the radio?
9. Of what value is music to home making? a good library? a beautiful painting?
10. Suppose your father makes just enough money to support the home. You have an after-school job the wages from which you intended to use to purchase a tennis racket. You need a new pair of shoes which, if bought by your father, must be purchased at a sacrifice of something which the family as a whole needs. Who should buy the shoes — you or your father?

#### FIELD STUDIES

1. For one week, undertake a definite home task like dish-washing, tending the furnace, bringing up the coal or bringing in the wood, making the beds, preparing the dessert for dinner, or taking care of the baby for an hour or two each day. This is to be *your* job. Do it quietly and skillfully without being reminded of it. Perhaps you will notice a happier home atmosphere just because of your help as a home maker. This should make you want to extend your week's project until it becomes a fixed habit.

2. A happy conversation at the dinner table helps to make a happy home. What topics of conversation will add cheer to the family circle? Take the responsibility for introducing pleasant topics to-night at the dinner or supper table. Report to the class what topics you introduced and any interesting developments. Be sure to avoid any subjects which might lead to disagreements or quarreling.
3. Arrange a pantomime to be acted before the class. In it have the actors a mother, a father, a son, and a daughter. Have it cover briefly the period of time between 4 P.M. and 9 P.M. Include little incidents which will show plainly that this is a real *home*. Several domestic duties can be brought into the act.
4. Talk with some one in an occupation allied to home making, such as dressmaking, millinery, or gardening, and find out how the worker started business, what capital was necessary, what obstacles had to be overcome, and whether profit was made during the first year of the business.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*The Log Cabin Lady* (anonymous)

*Little Women* by Louisa M. Alcott

*Understood Betsy* by Dorothy Canfield

*Alice and a Family* by St. John Ervine

*Mrs. Wiggs of the Cabbage Patch* by Alice C. Hegan Rice

*We Five* by Edna Osborne Whitcomb

*The Widow O'Callaghan's Boys* by Gulielma Zollinger

##### 2. *Other References*

*My Mother and I* by Elizabeth Stern

*Junior Home Problems* by Mrs. Kate P. Kenyon and Levi T. Hopkins

*A Girl's Problems in Home Economics* by Mabel B. Trilling and Florence M. Williams

## CHAPTER XI

### INSTITUTIONAL HOME MAKING

*The atmosphere*

*Breathes rest and comfort, and the many chambers*

*Seem full of welcome.*

— LONGFELLOW, *The Masque of Pandora*

#### 1. THE HOTEL

**Institutional Homes.** — Institutional home making, that is, making homes for those not living in homes of their own, is found in hotels, boarding houses, clubs, orphanages, hospitals, reformatories, and similar public and semi-public institutions. It includes the work of preparing and serving food, care of rooms, purchase of supplies, building and yard care, and all the other tasks connected with giving an institution an atmosphere of home. Perhaps, if we outline the work of a modern hotel organization, we can understand the problems of institutional home making in general, because the main aspects are the same in all establishments of this type, whether they are managed for profit or as charitable enterprises.

**The History of the Hotel.** — To appreciate the variety and standard of services given by the modern hotel, we must turn to histories and literature, in



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# WELCOME TO THE TRAVELER

*Above:* The Ambassador, Atlantic City, New Jersey.

*Below:* The main foyer in the Lake Shore Drive Hotel, Chicago. Rev-  
member to fill in the workers.

## Ellsworth Milton Statler

The Statler system of hotels, which has representatives in many of the larger cities of our country, was begun by a man who believed that *service* is the keynote to success.

Ellsworth Statler's first job was stoking a furnace in a glass factory at the age of nine. For this he received ninety cents a day. Three years later, he be-



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came a bell-boy in a small hotel in West Virginia. The bags were heavy and the stairs were long, but young Statler went at his work with a good-natured smile and a cheerful word for every one. He saved every penny possible, depriving himself of everything but the bare necessities of life in order to do so. He rose to the position of night clerk, then day clerk, and finally reached the point where he felt confident enough to start in business for himself. After attaining success in operating a number of restaurants, he opened a large hotel in Buffalo,

New York, in 1901. This was the beginning of a great chain of hotels which have flourished because their owner impressed upon his employees the maxim of service.

Statler was the first hotel man to provide private baths and running ice water in his hotel rooms. Recently radios have been installed in every room. He has always provided every comfort which a travel-weary man or woman might wish. Travelers have appreciated to such an extent what a Statler Hotel can furnish that more than 200,000 persons are accommodated each month in these great hotels.

One of the last messages which Statler delivered to his thousands of employees stressed the need for making and keeping the organization human and unified: that is, *people*, not a mechanical system, must run the organization, and those people must have just one objective — *service*.

order to contrast the service of to-day with that of former years. Some of you have read selections, like Longfellow's *Tales of a Wayside Inn*, which permit here and there delightful glimpses into the life of those rambling, many-gabled, simple but comfortable inns and taverns of colonial days. Some of



THE WAYSIDE INN

“As ancient is this hostelry  
As any in the land may be.”

you have probably read Melville's *Moby Dick*, in which a crude establishment, the Spouter Inn of New Bedford, is described, or some of Dickens' novels, with their scenes in English inns, or Charles Reade's *The Cloister and the Hearth*, in which inns of the sixteenth century are pictured. By means of such narratives, and through historical accounts, we may trace the development of hotels as it has kept pace with improvements in transportation.



To-day we have fine state highways and widespread railway systems which have brought with them towering steel and concrete buildings having every modern convenience demanded by travelers: silent, fast-moving elevators, room and bath for each guest, hot and cold running water, a radio receiver in each room, room telephones, grills, dining rooms, banquet halls, swimming pools, lounging rooms and parlors, and all forms of personal service from valet to bootblack.

The big hotel of to-day represents a large investment of capital — often a million dollars or more. It may be one of a chain of hotels, like the United or Statler groups, with experienced hotel financiers backing it. The modern hotel has become an enterprise of big business, offering an opportunity for young men and women with personality, training, and business judgment to rise to high management positions.

**The Hotel as a Home.** — The right kind of home is a place where any one belonging to it may find comfort and rest after a day of work under pressure. The hotel of to-day does its best to render the same service. Even in the hotel lobby where many come and go, the surroundings induce a sense of restfulness and well-being. Deep, comfortable chairs, rich decorations, soft rugs, and convenient lamps suggest the relaxation of a living-room at home. Always some one of the hotel staff is near at hand to supply any service needed to complete the comforts which

home might offer. The typical private room has an easy chair, desk and writing materials, private bath, comfortable bed, ample closet, big dressing table, reading lamp, telephone, and everything needed to make the guest at home.

To be sure, hotels in small communities have not the patronage to warrant expenditure on such service, so we find several levels of hotel service just as in family home making. There are also, even in the cities, the poorly managed hotels which cater to a less exacting class of people. Then, there are the comfortable family hotels such as we find in our suburban communities. However, the palatial establishment, with its expert service, is an increasingly familiar feature of modern life, whether it is a vacationist's resort at seashore or mountains, or the highly efficient, commercial hotel in the industrial city.

**Hotel Management.** — The *hotel manager* is the person in charge of the whole establishment, usually a man who lives in the hotel. He is directly responsible to the owners for profits, and to the patrons for service. His organization may vary, but usually has the following divisions: *business departments* which attend to the business connected with registration of guests, receipt and expenditures of money, and bookkeeping, accounting, and allied office work; the *house-service department* which includes service rendered by bell boys, porters, parcel and cloak rooms, lobby and dining rooms, telephone central, and news

and cigar stands; the *housekeeping department* which looks after the care of the hotel rooms and hallways; the *steward's department* which attends to purchasing supplies for all departments and manages the kitchen and pantry; the *dining-room department* which at-



A HOTEL DINING ROOM

tends to the service of food; and the *engineering department* which has charge of the heating, lighting, plumbing, and other mechanical work.

**The Three Training Levels.** — In all departments we find little-skilled, skilled, and technically trained workers. Here, as in the other vocational fields, the little-skilled worker has, if educated, a chance to advance to the upper training levels.

The peculiar character of hotel work, bringing a worker into contact with people of culture and intelligence, permits him to acquire information and

culture which he might otherwise never receive. From its very nature, hotel work requires a study and understanding of people in order that their wants may be met. Such study is, in itself, splendid training, and for the right people leads to high executive positions. Because hotel work is typical of the duties performed in many institutions, we shall consider its services somewhat in detail in the following pages.

**The Housekeeping Department.** — *Parlor maids* keep the hotel parlors in order; *chamber maids* take care of the hotel bedrooms; *seamstresses* keep the linen in repair; *linen-room attendants* have charge of the linen supplies; and *laundry workers* do the hotel washing and ironing. A girl who is apt in one of these branches and shows ability to direct the work and coöperate with others may become head of the laundry or linen room, room inspector, assistant housekeeper, or housekeeper. The chief requirements of housekeeping workers are personal neatness and, according to the position, deftness in bedmaking, in tidying a room, in ironing, or in mending.

The *room inspector* trains new workers and checks up on the work done by chamber maids. The *laundress* (sometimes a laundry foreman) supervises the work of the laundry. The *housekeeper* and her assistant have charge of all workers and service in the bedrooms, lavatories, lounges, linen room, and laundry. Such executives must have skill in doing the work done by others under their direction, the ability to train and direct subordinate workers, and

the intelligence to conduct this service with the maximum of efficiency for the owners and of convenience to the patrons. High-school or college home-economics courses may not be necessary but are helpful in attaining the more responsible positions in the largest hotels, many of which are on the science level.

**The Steward's Department.** — The steward's department is concerned chiefly with the work of purchasing and preparing food for the hotel guests and employees. The kitchen prepares the food, and the dining room, grill, or cafeteria serves it. Meals must be planned in advance, the right amount and quality of food must be purchased to insure having what is needed just when it is needed, dishes must be washed, the pantry must be taken care of, silver must be accounted for, and garbage must be economically disposed of. These duties are all carried out under the steward's supervision by little-skilled workers such as *dishwashers*, *runners* (for errands), and *helpers* for the various *cooks*, the *baker*, and the *butcher*.

In large hotels we may class as skilled workers in the steward's department chefs and those workers in charge of the pantry and storeroom, as well as the assistant steward and the steward. The assistant steward has direct charge of all workers in the steward's department. The steward is responsible for his department and must see that it coöperates closely with other departments in the hotel. The chief requirement for the position of steward is depend-

ability and experience. Young men have a better opportunity for promotion than girls. For promotion to assistant steward and steward, qualifications



FUTURE HOTEL MANAGERS

*International Newsreel*

The chef, at the extreme left, is in charge of the kitchen in one of New York's large hotels. The four young men are students in the course in hotel management offered at Cornell University.

must include business ability as well as skill in preparing menus and in making arrangements for banquets.

**The Dining-Room Department.**— In the dining room and grill there are *bus boys* to remove dishes and *waiters* to take the orders and serve the food. In the cafeteria one finds *counter* men and women serving food from the counter to customers who themselves carry their trays to the tables. The *head waiter* or *maître d'hôtel* is in charge of the workers in this department. The waiters in the more elaborate eating places, where a wide range of special



dishes may be ordered, must do their work perfectly, anticipating and catering skillfully to the whims and appetites of the diners.

The bus boy may become a waiter, if he is neat and alert and possesses a reasonably good memory. The waiter may become head waiter, a position of considerable importance, which furnishes one with



ON BOARD AN OCEAN LINER

*Keystone View Company*

Modern ocean liners, though built for transportation, are temporary homes and should be as homelike as possible.

experience sufficient to qualify him for ownership or management of a restaurant or tea room. The waiter has a good opportunity to know what the public wants and how to profit by that information.

The chefs and the head waiters coöperate to secure such excellence in the preparing and serving of foods as to lend distinction to that particular establishment. Combined with economy, this means financial profits to the management. We have all learned

that there is a flavor all its own in food prepared by a highly accomplished cook.

There is a sixth sense, too, which is developed by those in charge of dining-room service, which makes one eating place much more satisfactory than others not so well managed. Dining rooms become famous if they have such service. It comes from the right kind of music or none at all, from a dining room and a kitchen working in perfect harmony with each other, from alert, well-trained waiters who are instantly responsive to the wishes of the patron. Certainly, some of those in charge of dining-room and kitchen service in our modern hotels are very close to the science level of vocational accomplishment.

**The Science Level in Hotel Vocations.** — College training is not a necessary qualification for hotel administration, but hotel owners have found that a keen, alert, college-trained person, serving special apprenticeships in various departments, just as technical graduates do in great shops, can expect later to fill an important managerial position more successfully than one who has not had college training. Certain schools are beginning to give attention to training for hotel management, which in many hotels belongs on the *science level*.

Some of the department heads of a big hotel with a thousand rooms or more, with highly organized training systems for employees, may also be rated as belonging to the science level. This is true, in particular, of the directors of the housekeeping and

auditing departments. The chef, too, may attain such skill and distinction in what may be called the creative work of his craft as to qualify for this level. There are some other special positions in these great hotels; for example, the hotel *hostess*, for whom college education, culture, and maturity are decided assets.

The successful hotel man or woman must have interest in the work, good health, the ability to get along with people when they are most unreasonable and exacting, and the ability to train subordinates. Excellent preparation is obtained in a college course in hotel work, like that at Cornell, for instance, or a home-economics course at such an institution, followed by several years of practical experience in the various hotel departments. Financial returns to the successful hotel executive are very satisfactory. His work also has other rewards in the social and business contacts which it creates.

## 2. THE BOARDING HOUSE

**The Purpose of Boarding Houses.** — A room and board in a modern hotel costs from \$5 to \$15 a day — more than the daily earnings of many people who are for short or long intervals away from home. The cost of living in a boarding house is much less. Again, too, in the boarding house the circle of people is small, changing little from week to week. This means that it can be much more a family circle than is possible in a hotel. Boarding houses, therefore, provide accommodations for those who cannot pay

hotel charges and those who desire conditions more nearly like family home life.

**Management of a Boarding House.** — The experience of Mrs. ——— of Philadelphia shows us that boarding-house management is primarily a woman's vocation though men employees may be necessary. Mrs. ——— originally planned to accommodate only a few roomers to "help out." She had the idea that if she selected her roomers carefully, men and women who would be as congenial to one another as possible, and set aside a large living room with a cheery fireplace, and with alcoves which gave some privacy, she might build up a real home for people away from home, and in addition profit financially. The plan worked so well that now she rents adjoining apartments and employs assistants to help her in the service which she renders the public.

There are levels in this field as in others. Some boarding houses are anything but homes — places you would instantly set down as showing little skill. Others, though lacking some of the conveniences which mark the highest level, are so capably conducted that their managers are classed on the skilled level. A woman with few financial resources, whose interest and training have been in the field of home making, may, like Mrs. ———, develop a profitable business in boarding-house management. The disadvantages lie in the possibility of financial loss; the uncertainty of leisure time, and the need for

adjustment to the uncertain temperaments of one's guests. The success of such an enterprise depends in part on the location of the house, the amount of money invested, and the ability with which the place is managed.

The chief elements in able management are skill in food preparation and service in the furnishing and care of rooms, and the ability to obtain desirable guests and to maintain a homelike atmosphere on a profitable basis. Boarding-house management is beyond question a splendid vocation for experienced women, and should be included as a home-making service in the world of work.

### 3. STATE AND OTHER PUBLIC INSTITUTIONS

**The Purposes of Public Institutions.** — Accidents and sickness make the hospital one of the most necessary of institutional homes. In addition we have homes for orphans, foundlings, and children of parents unable to care for them, and institutions for destitute old folks, the insane, the blind, the crippled, and the criminal. There was a time when the home idea had nothing to do with many of these places. The food was unpalatable, unkindness was the rule, sickness was allowed to grow unchecked, and often the inmates, more sinned against than sinning, went from bad to worse. Under such conditions there could be no other result, but times have changed.

The reason why most of the people in state homes are there is that the homes these people came from were not of the right kind. To-day, the state and

national governments and the counties and cities which operate these homes find that, if they put in charge of them people who have attained the science level in home making, combining science with practical experience and kindness, people will go from bad to better, instead of to worse. In the end that saves the public millions of dollars and improves our citizenship.

**State Institutional Homes.** — In the hotel we studied the housekeeping, steward's, dining-room, business, house-service, and engineering departments. These are present in most state institutions. With the exception of hospitals each of these institutions makes use as far as possible of the people confined to that institution to perform the work of the various departments.

There are special occupations, according to the kind of institution, filled by non-inmates. For example, a hospital employs nurses and orderlies, and a prison, guards. Special occupations of this sort usually have a background of preparation which is discussed, elsewhere in the text, in connection with their relation to other vocational fields. They are mentioned here to suggest a line of vocational study which may interest you in case you live near such an institution. If this is the case, make an investigation of one of these occupations and report on it to the class.

While many executive positions in state institutions are filled by political appointment, there is an



increasing demand for people specially trained for institutional supervision. For instance, a college-trained girl who has majored in sociology and has taken special courses in institutional management would be well equipped for a position as assistant superintendent or superintendent of a corrective institution such as a home for defectives. Others also, with less training but with practical experience and ability, may obtain positions as assistants and later perhaps become superintendents.

**The Institutional Executive.** — The managers in these various state institutions are usually known as *superintendents*; like the hotel manager, they must have an understanding of all the departments under their supervision.

Work as an institutional executive offers abundant opportunity in social service, which is one of its chief rewards. There are disadvantages, for the superintendent is always subject to call. Trouble among the inmates, sickness, delayed supplies, or any one of a number of things may get beyond the control of the subordinate in charge of the particular department concerned. Women may find assisting positions as matrons or assistants in the larger institutions, which are very often superintended by men.

#### MY GUIDANCE SCRAPBOOK

##### 1. *My Guidedpost*

If people are so unfortunate as to have to live in institutions instead of in homes of their own, everything possible should be done to make these institutions comfortable and homelike. The spirit of managers and employees counts for more than

mere physical comforts. In institutional home making, as in family home making, it is the spirit that is important.

The employees of these institutions should get their chief satisfaction, not in the money which they receive, but in the happiness which they give to the people whom they serve. Make your guidepost sign express this idea of service.

## 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

## 3. *Scrapbook Suggestions*

(1) Newspapers and magazines often publish pictures of historic inns. See if you can secure a picture of an inn or tavern in your section of the country. Try also to obtain a snapshot of some public institution such as a hospital, an orphanage, or a prison.

(2) Suppose that you are the steward of a large hotel. You receive instructions to plan the menu for a banquet which a high-school class is to have as one of its commencement festivities. Write it neatly in the correct form. (Obtain a banquet menu as a sample.)

## THINKING THROUGH

1. What are the duties of a hotel hostess? Describe how you would expect her to look and act.
2. What do you think of the custom of tipping the employees of a hotel for service?
3. Describe a well-managed cafeteria.
4. To what degree does a waiter (or waitress) come in contact with people of culture and intelligence? How can he profit by this contact?
5. In your opinion, does music during dinner add to or detract from the restfulness and relaxation which should accompany the meal? What kind of music, if any, is most pleasing at that time?

6. If you obtained work in a strange city for \$20 a week, would you live in a hotel, in a boarding house, or in a rooming house (in the last case you would get your meals elsewhere)? How much money would you allow a week to cover food and shelter, and how would you apportion it?
7. If you managed a boarding house, what would you do to promote the comfort and happiness of your boarders?
8. What is the meaning of the word *state* when it is applied to institutions?
9. In many insane asylums, basketry and other handicrafts are taught the patients. Discuss the advisability of this sort of employment for the patients. What other kinds of institutions carry out a similar plan?
10. Some institutions which care for the needy require that a person, on entering, give to the institution all the money he possesses. In return, he is assured of care until his death. Discuss the fairness of this arrangement.
11. Name some institutions which have been established in accordance with the modern idea of *prevention* rather than *cure*.

#### FIELD STUDIES

1. Visit the most modern hotel in your vicinity and get permission to go through the building. (Perhaps this can be arranged as a class trip.) Report in detail on the kitchen, the dining room, the lobby, and the public and private rooms. Notice the cleanliness, comfort, and attractiveness of the furnishings and the up-to-dateness of the equipment. Find out the scale of prices for rooms and meals, the number of employees, their duties, the number of guests that can be accommodated, and any other information of interest.
2. Let members of the class dramatize the following project: Have a hotel manager in his office about to start the day's work. Part of his duty is to interview the persons in charge of each department of the hotel. Let him find out from them any complaints or comments which the guests have made and any problems which confront them. Then let him give out

any orders for the day, if there is to be any departure from the routine. Perhaps the hotel is to entertain that day a guest of unusual distinction. Everything must be of the best. The manager must instill into his subordinates an enthusiasm for their particular work which will send them to their duties contented and loyal.

3. Visit a public institution like an orphanage, an old ladies' home, a town farm, or a home for the crippled. Talk with the people who live in these institutions. Find out what is done for their amusement. Judge from what they say and what you observe whether homelike conditions exist there.

### INTERESTING READINGS

#### 1. *Stories and Biography*

*Heroines of Modern Progress* (Clara Barton, Jane Addams)  
by E. C. Adams and W. D. Foster

*Girls Who Did* (Alice Foote MacDougall, Marion Sprague Gilmore) by Helen Ferris and Virginia Moore

*A Boy's Life of Booker T. Washington* by Walter C. Jackson

*The Roll Call of Honor* (Florence Nightingale) by Sir Arthur Quiller-Couch

*Elizabeth Fry* by Laura E. Richards

*Famous Leaders of Industry*, Second Series (William Childs, Ellsworth M. Statler) by Edwin Wildman

#### 2. *Other References*

*Careers for Women* (pages 261-269) by Catherine Filene

*Occupations* (pages 318-319) by O. Latham Hatcher

*Fields of Work for Women* (pages 195-203, 212-218) by Miriam Simons Leuck

*Success through Vocational Guidance* (chapter xii) by James McKinney and A. M. Simons.

## Dorothy Canfield Fisher

Dorothy Canfield, the daughter of a midwestern college president, was brought up among scholars in an academic atmosphere. She studied at Columbia University and in Paris. Her career as a writer began with the publication of a scholarly study of

Corneille and Racine, two French dramatists. Some time later, she married John Fisher and went to live in the little town of Arlington on a Vermont mountainside.

Mrs. Fisher wrote several novels by which her position as a successful writer was established. Among her books are *The Montessori Mother*, *The Squirrel Cage*, *Hillsboro People*, *The Bent Twig*, *Home Fires in France*, *Rough Hewn*, and *The Brimming Cup*.



Harcourt, Brace & Co.

She spent much time living and traveling in Europe, so it was quite natural that she should wish to return there when the World War broke out and her husband enlisted as an ambulance driver in France. In 1916, accompanied by her two small children, she sailed for France to do her bit in war-relief work. At the end of the war she returned to her simple Vermont home to settle down once more to the life she loved.

Mrs. Fisher is in much demand as a writer of short stories for magazines, as a lecturer, and as a member of committees, especially those for the improvement of education.

## PART V—THE FIELD OF THE PROFESSIONS

(And Allied Services)

### CHAPTER XII

#### THE ARTS

*A thing of beauty is a joy forever;  
Its loveliness increases; it will never  
Pass into nothingness; but still will keep  
A bower quiet for us, and a sleep  
Full of sweet dreams, and health, and quiet breathing.*

— KEATS, *Endymion*

#### 1. THE PLACE OF PROFESSIONS IN THE WORLD OF WORK

**Professions Defined.** — The field of professions was briefly described on page 17. From its very nature much of the work in this field is on the *science level*. A profession is a special vocation requiring higher training which is usually acquired through a suitable education after high school or college. Such preparation makes a science of every professional vocation. This means that all professions belong on the science level and that wherever we have so far considered work of the science level we have studied the field of the professions. The architect, the engineer, the public accountant, all belong to this field and have been considered elsewhere in



the text simply because of the exceptionally close relation between their work and that of the vocations with which they were considered.

Formerly, only three professions were recognized; they were known as the *learned professions*. These were medicine, theology, and law. To the clergy fell the tasks of certain other vocations which we now classify as separate professions — such occupations as teaching and writing. But, to-day, education has become so general and science has contributed so much to the arts that the United States Bureau of the Census classes more than thirty vocations as professions. These really include many more.

We have studied enough about vocations now to know that there are no sharp dividing lines between the three vocational levels nor between the five vocational fields. It is not surprising, then, that a list of all professions has not been agreed upon by students of vocational activities. However, our definition will help us to recognize vocations which really are professions.

**The Art Professions.** — In one sense we may speak of every profession as an art. This is so because skill and native talent are the basis of art. In a stricter sense, art has to do with the processes by which fine things are produced — things like bridges, paintings, music, plays, books, buildings, or fine china. These things satisfy our sense of beauty through our senses of sight, touch, and hearing. They may be further classified according

to whether they are useful or are designed to satisfy our mental and spiritual interests.

The arts which furnish the practical products — articles useful in daily life — are known as the *practical arts*; those which excite mental and spiritual



GUARDIANS OF ART

The two lions stand watch before the entrance to the Fine Arts Institute, Chicago, Illinois.

interest or activity are called the *fine arts*. In either case, the worker must have a mind trained in the science of his art. For instance, a musical composer must know the technique of music, if his feelings are to have proper expression; an architect must be skilled in the mechanics of his work, if his designs

are to express utility as well as beauty. Skill, controlled by a cultured, well-informed mind, is the secret of professional success. Let us see how this fact applies to the practical arts. A discussion of one

group of practical-arts workers will serve to guide you in your study of any other practical art mentioned for class report.

## 2. THE PRACTICAL ARTS

**The Engineering Professions.** — You have already studied some of the engineering professions, but we shall mention them again here along with others, so that you may recall from this earlier study what the requirements of preparation are for this



*Keystone View Company*

ENGINEERS OF THE GEODETIC SURVEY

At work on a survey of the Grand Cañon.

group. You know that mining, metallurgical, electrical, construction, chemical, civil, mechanical, and sanitary engineers are professional workers, because they have had training which included cultural and

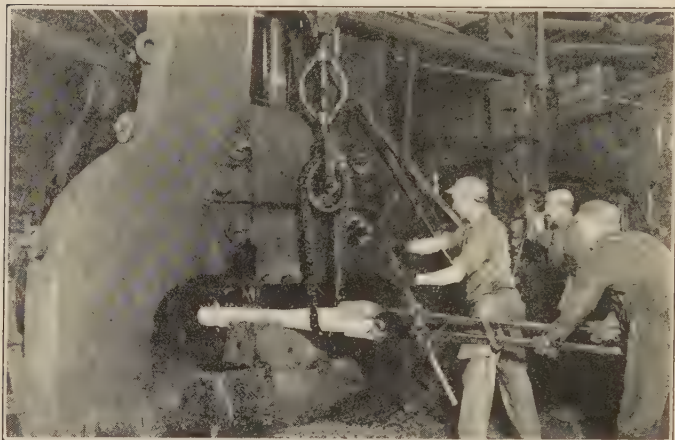
scientific study as well as experience in developing mechanical skill. They are on the *science level*. You must not confuse their work with that of locomotive and marine engineers, who are on the *skilled level*. Once the latter have learned their trades, they have less occasion to apply creative thinking to their tasks but rely considerably on acquired manual skill and habit to do their work.

The professional engineer, whatever his specialty, must be able to *create* as well as to make his hands act in applying knowledge already learned. Unlike the little-skilled worker, to do his work well he requires more than simple coördination of mind and muscle in a fixed series of tasks. He must often think out an original plan and apply it to the needs of the busy world. Not only must he have an inventive mind, but if, for example, he is a mechanical engineer, he must be thoroughly acquainted with the principles of physics, chemistry, mathematics, mechanics, and construction. In like manner, all other types of professional engineers must have creative ability linked with a broad education, including special training in the vocation which they follow.

In recent years, the scientific method has won such favor in our business and industrial life that many mechanical trades on the skilled level have developed corresponding vocations on the science level which belong to the engineering professions.

Unless you can plan for college training or are willing to spend years in study outside working hours, unless you have mathematical and scientific ability,

you should turn your study to other vocations. But, if you have the right qualifications, no more thrilling and profitable work is open to you than that offered by one of the engineering professions. Like the architect, the professional engineer is often an artist, because, whenever his work permits, he strives to



THE HAMMER BY WHICH THE STEEL IS WROUGHT

This mighty steam hammer is an impressive example of inventive skill. Skill, too, is required of the workmen who are handling the white-hot bar of steel.

build beauty into the things which he produces. So if you become an engineer in one of the construction or manufacturing vocations, you will be welding one of the links which bind the fine arts close to the practical arts. The following stanzas show a poet's recognition and appreciation of the close relationship which exists between the technical skill of the

machinist and the creative power of the professional engineer :

*The Thinker*<sup>1</sup>

Back of the beating hammer  
By which the steel is wrought,  
Back of the workshop's clamor  
The seeker may find the Thought,  
The Thought that is ever master  
Of iron and steam and steel,  
That rises above disaster  
And tramples it under heel !  
  
Back of the motors humming,  
Back of the belts that sing,  
Back of the hammers drumming,  
Back of the cranes that swing,  
There is the eye which scans them,  
Watching through stress and strain,  
There is the Mind which plans them —  
Back of the brawn, the Brain !  
  
Might of the roaring boiler,  
Force of the engine's thrust,  
Strength of the sweating toiler,  
Greatly in these we trust.  
But back of them stands the Schemer,  
The Thinker who drives things through ;  
Back of the Job — the Dreamer  
Who's making the dream come true !

### 3. THE FINE ARTS

**Beauty for Beauty's Sake.** — The *fine arts* are seven — painting, sculpture, architecture, music, literature, dancing, and acting. When their sole

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<sup>1</sup> By Berton Braley, from *Songs of the Workaday World*, copyrighted 1915 by George H. Doran Company.



purpose is to enrich our minds and stimulate our emotions, they are considered fine arts, but when they enter the field of industry to produce beautiful buildings or glassware, they become *decorative* or *practical* arts.

The fine arts are here presented as vocations devoted to love of the beautiful — vocations whose



THE MILL

This reproduction of a famous painting is not the only pictorial illustration of the fine arts which this book contains. Find as many others as you can, for example, the picture of the doctor on page 293. Explain each picture.

products can be created only through a knowledge and love of pure beauty. Art in this sense, whether it is a dance of classic grace or a painting of rare charm, is the result of thoughts and emotions that are apart from purely practical considerations. The pleasure of a warm fire in cold weather is quite differ-

ent from that which you experience in seeing a beautiful picture, but both are dependent on appeals to the senses. One relaxes and comforts the body, the other enriches the mind and strengthens the character. Life is richest when body, mind, and spirit receive the best nourishment and exercise possible.

In primitive ages when men had to fight for mere existence, there was no time for them to develop the mental and spiritual activities represented by the fine arts. But succeeding ages brought improvements in living and made possible leisure and training for the best use of it. As social conditions have improved, men have had more and more leisure to develop this universal language of art which binds men together in their common appreciation of beautiful things.

**Artist and Artisan.** — This general discussion of the fine arts belongs to your vocational study because it shows you how to distinguish between the real *artist* and the *artisan*. The artist has the native ability which belongs to genius; his genius is in proportion to his intelligence and emotional power. The artisan, just as necessary to life as the first, is intelligent and skilled in his handicraft but has not that spark of creative power which belongs to the artist. The artisan can imitate but cannot create; he is technically accurate but lacks the power to translate his emotions into his work; he does not quite know how to *think through* from spirit to product.

This distinction will help you to judge your own powers. It may perhaps save you from frittering



*International Newsreel*

#### AN EARLY CHOICE OF VOCATION

Hawthorne L. Smyth found his life career much earlier than most of you can hope to do.

gift will add enjoyment and refinement to your own and many other lives.

away years of effort in a useless attempt to reach success in some field for which you are not fitted. How futile it would be for you to aim towards a grand-opera career just because you have a sweet voice and handsome face, if you lack other qualities necessary to artistic success in the art of vocal music! You will find a more successful career in another vocation, where at the same time your musical

**The Training Levels in Art.** — That person is a creative artist who can vividly and accurately tell the story of something he sees and feels. Whether his language is sculpture, music, literature, or any other of the fine arts, he must make his story live so

## Augustus Saint-Gaudens

It is comparatively recently that American sculpture has gained recognition in the United States. Augustus Saint-Gaudens was one of our pioneers in this vocation.

Little Augustus used to sit in the corner of his father's shoemaking shop in New York making pen-and-ink sketches of the shoemakers at



*Ewing Galloway*

work. His father, seeing in what direction the boy's interest lay, apprenticed him to a cutter of cameos. For six years he worked at this craft, developing a delicacy of workmanship which later was very valuable to him in his relief work in bronze. In the evenings he attended Cooper Art Institute, where he worked at his modeling long after the class was over.

After several years of study abroad, his zeal for sculpture was repaid when his first big statue, *Hiawatha*, gained recognition. He returned to this country, where his work attracted wide attention.

Saint-Gaudens' statue in Chicago of Lincoln is considered the finest portrait statue in the United States. Of his bronze work, among the most beautiful is the relief on Boston Common in memory of Robert Shaw.

As a man Saint-Gaudens was gentle, sweet, and generous; as an artist, he was poetic in his interpretation of his subject, delicate in workmanship, and especially gifted in imparting life and motion to his creations.

that others can share his creative joy with him. Such an artist has a good opportunity to-day to have his talent recognized and to be well rewarded, but if he is a true artist, his art is more important to him than material rewards. He desires above every-

thing that other people understand his art and enjoy his creations.



*Keystone View Company*

#### GENIUS SCULPTURES GENIUS

Bryant Baker has chosen a worthy subject for his skill.

On the other hand, there are large numbers of people who have the imitative ability and technical training which make them successful artisans in the field of fine arts. Their places are on the skilled level where they may serve many useful purposes, as we shall see in the following paragraphs.

Their work, too, is interesting and well paid. They are of the professions in so far as their work requires skilled professional training, but of the trades in so far as they lack the culture and power of the creative artist. Silversmiths, potters, photographers, advertising designers, and similar workers are artisans —

skilled tradesmen with artistic ability. They are artists only when their work passes beyond the mechanical stage of reproduction.

**Vocations in Line and Color.** — Vocations in line and color are studied in school as drawing and painting. Ability to draw with pencil is one of the requirements for a *painter* who uses oils or water colors. The *illustrator* of books, magazines, and advertisements may use color, but very often finishes his work in pen and ink. Charles Dana Gibson and James Montgomery Flagg are two of the best-known modern workers in this field. Scenes or incidents to be illustrated for story or advertisement are usually suggested by the author, publisher, or advertiser. The artist must catch the spirit of the incident, and give it pictorial life. See page 137.

The rough cartoon differs greatly from the fine-lined work of a Coles Phillips, yet each has something which commands attention. Each tells its story of life. Success as an illustrator comes in the main, then, from two things — first, catching some new or challenging fact in life, and second, skillfully portraying it in the kind of lines which translate it into a true picture. Such skill may also find profitable employment in the vocation of *etching*. The art of etching will repay your study.

If you are interested in people and things and like to talk about them with sketches instead of with words, there may be an opportunity for you in the hard work and rewards of illustrating.



Art applied to illustrating for magazines and color designs for various commercial purposes offers a livelihood for those who show ability. The products of commercial art are usually "made to order," but are not to be belittled on that account. The true artist is glad to forsake the field of commercial



*International Newsreel*

PROFESSIONAL AND "PROFESSIONAL"

James Montgomery Flagg sketches Gene Tunney. See page 41, if you do not understand the title.

art when circumstances permit, but is quite as ready to admit that it may be a real "friend in time of need."

**Other Vocations of the Fine Arts.** — It is impossible for this text to do justice to the work of all the fine arts. Each is so rich with vocational opportunity for the right workers that many pages would be needed to discuss them all satisfactorily. Literature

music, the drama, and sometimes sculpture are as much a part of your school studies as is the work of your drawing classes.

You must not depend on your class work in these studies to give you a complete idea of their vocational interest for you. You must consult libraries, artists in your community, teachers, and parents for an adequate consideration of this field of work. As you turn from it, be sure to carry away with you the thought that it is a field which belongs to every one of you even though you do not take part in creating, because ability to *appreciate* can be developed even though one has not the genius to create. Therefore, take with you from this study a definite resolve to acquire the knowledge and discipline which will qualify you to recognize real beauty wherever the artist provides it. You can share the artist's pleasure though you cannot match his genius. Art will make your life rich in enjoyment, and it may increase your earnings in your vocation.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

Whether we actively adopt a vocation in the field of the arts or simply try to increase our appreciation of them, we must continually be on the alert to discover beauty in our environment. Have your guidepost carry out this idea.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

### 3. Scrapbook Suggestions

(1) Copy into your scrapbook the poem *The Thinker*. Underneath it, write in your own words a short paragraph which expresses the theme of the poem.

(2) Cut from a magazine two or three of the best colored advertisements you can find. Discover, if you can, who the artists are.

(3) Often magazines have either inside or on their covers reproductions of oil paintings by well-known artists. Try to find an attractive one to paste in your book.

(4) Find a good cartoon by a well-known artist and add it to your collection of pictures.

(5) If you have any artistic ability, make a sketch in your scrapbook which attempts to meet the requirements mentioned on page 281.

### THINKING THROUGH

1. Review the four other fields of work, and among the occupations within each field, name two vocations which are professions.
2. What is meant by *native ability*? What is your native ability?
3. Name several articles which are both useful and beautiful. How are these classified in the field of art?
4. Do you consider photography one of the practical or one of the fine arts, or both? Why?
5. What kind of creative work does the mechanical engineer do? the civil engineer? the construction engineer? the sanitary engineer?
6. Describe in your own words the scenes and activities suggested in *The Thinker* on page 275?
7. What other vocations in the practical arts besides engineering could be classed on the science level?
8. Name seven outstanding persons alive to-day each of whom represents one of the seven fine arts.

9. We learned in the text that one of the marks of civilization is an interest in and expression of art. In what arts did the early Egyptians express themselves?
10. What kind of work does a potter do? a silversmith? Describe some famous creation of a potter or silversmith which definitely places its maker on the science level — the Portland Vase, for example.
11. What is meant by the term *pot-boiler* when it is applied to an artist's work?
12. Do not overlook the professions which are connected with the seven fine arts. Name all those which have a direct bearing on them.
13. The vocation of acting has a glamor about it, but, in reality, behind this glamor is much hard work. Can you think of some of the hardships which have to be endured by the actor?
14. What feelings are expressed better by a piano than by any other instrument? by a violin? by a cornet? by a saxophone?
15. How may you improve your knowledge and appreciation of beauty?

#### FIELD STUDIES

1. If there is an art museum in your vicinity, visit it and report on the works of art in the room which most interests you. Often there are special exhibits which are worth an afternoon's study. Find out either from a catalogue or from the library interesting facts about the artists whose works you are reporting on.
2. If you have at home on your walls a reproduction of a painting by one of the old masters, study it carefully and report to the class on its title and artist, its subject matter, and its coloring. Find out where the original painting is now hung.
3. Find out for what the following artists are famous: Daniel Chester French, Walter Damrosch, John Singer Sargent, Augustus Saint-Gaudens, Ralph Adams Cram, Ignace

Paderewski, Fritz Kreisler, Maria Jeritza, Margarete Matzenauer, Reinald Werrenrath, John McCormack, Serge Koussevitzky, Richard Strauss, Pablo Casals, Carlos Salzedo.

4. If your school has a phonograph and does not already conduct such a contest, plan a competition in which the winner identifies the largest number of selected musical compositions of classical repute.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*Story-Lives of Master Musicians* by Harriette Brower

*My Years on the Stage* by John Drew

*Girls Who Did* (Clara Sipprell, Ethel Barrymore, Neysa McMein, Peggy Hoyt) by Helen Ferris and Virginia Moore.

*Adventures in Interviewing* by Isaac F. Marcossou

*Careers* (Journalism, as told by William Allen White to Esca G. Rodgers)

*Famous Painters of America* by J. W. McSpadden

*Boy's Life of Edison* by W. H. Meadowcroft

##### 2. *Other References*

*Fields of Work for Women* (chapters xi and xii) by Miriam Simons Leuck

*Success through Vocational Guidance* by James McKinney and A. M. Simons

*The Engineer* by Robert Lemuel Sackett

## CHAPTER XIII

### THE PERSONAL PROFESSIONS

(And Allied Personal Services)

*Thus to relieve the wretched was his pride  
And e'en his failings leaned to Virtue's side;  
But in his duty prompt at every call,  
He watched and wept, he prayed and felt for all;  
And, as a bird each fond endearment tries  
To tempt its new-fledged offspring to the skies,  
He tried each art, reproved each dull delay,  
Allured to brighter worlds, and led the way.*

— GOLDSMITH, *The Deserted Village*

#### 1. VOCATIONS THAT SERVE MANKIND DIRECTLY

**Science and Service.** — Primitive life was such a struggle for self-preservation that it permitted only the strong and quick-witted to survive. By this process of elimination each succeeding generation inherited health and intelligence in increasing measure. In time self-preservation became an easier matter, and people began to develop social virtues as well as physical and mental powers. With the growth of affection and loyalty in the family came a regard for the rights of others outside the family. The weak and unfortunate began to receive protection, and after many centuries honesty in dealing with others became a principle of good living. These conditions spread from the family to the tribe, from



tribes to states, and now are being more and more recognized as the basis of international relations.

Science has been a powerful factor in this improvement of society. By observation and experiment, scientists have increased and classified our knowledge until to-day science influences all phases of our living. Each vocation which we have studied so far adds evidence of the importance of science in our world of work. But beyond the cold facts of science lies something even greater, something without which no scientist could succeed. This is the ideal of service.

**Living to Serve.** — While this ideal of service is a help to success in any vocation, there are three to which it is vital. They are those of the *pastor*, the *teacher*, and the *physician*. Separately and together it is their mission to help us acquire moral strength, trained minds, and healthy bodies. They live to serve, not to be served ; to give, not to get.

These professions overlap. From experience we know that the best physician has much of the teacher and pastor in him ; the successful pastor is both physician and teacher ; and the ideal teacher gives heed to the spiritual and physical needs of his pupils as well as to their mental development. These workers are concerned intimately with individuals, with matters that have a direct bearing on the character, health, and intelligence of individuals. That is why their professions are called the *personal professions*, and why, above all other motives, service to others should be the controlling motive of their work.

**Unselfish Motives.** — In considering your qualifications for any of these three professions, you must be sure of one thing — that the satisfaction of doing good is more important to you than financial reward. While this unselfish motive alone does not qualify you to be a pastor, a physician, or a teacher, without it you could not do your best work in any of these professions. You must be willing to sacrifice some pleasures and many comforts for the benefit of others. But the pastor who brings back to right living some one who has gone astray, the doctor who saves a human life, the teacher who develops an unruly boy into a self-reliant man — each receives a spiritual reward which cannot be measured in terms of money.

This principle of service to others may not seem sensible to you now, especially in this day when wealth appears to be the all-important goal of so many people. But as you grow older in knowledge and experience, you will recognize that it is one of the best laws of life. Keep it foremost in your mind as you study the technical side of the personal professions.

## 2. RELIGIOUS WORKERS

**The Pastor.** — Your own experience and information will suggest many of the duties of the clergy. Most important is their task of interpreting their Creator's love and will according to their belief. Thorough scholarship, sympathetic understanding of human nature, deep religious conviction, and

ability in public address are means to this end. Just as important are the willingness and ability to give service in the homes of the parish or in the assemblies of the community. Goldsmith has pictured for us in his *Deserted Village* an ideal of ministry which



*Keystone View Company*

#### THE CONSECRATION OF A BISHOP

"His name alone is excellent ; His glory is above the earth and heaven."

that higher education offers. Therefore, our ministers, like other leaders, must have these essentials of leadership.

provides sure guidance for those of you who think of entering such service. Also Dryden's *Character of a Good Parson* will help you to a fuller understanding of this vocation.

More than ever before, society looks to the ministry for help in solving life's problems. We respect our leaders to the degree in which they have the general culture and trained intelligence

**Other Professional Church Workers.** — From the time of the foundation of the church, church leaders

have required assistance to carry on their activities. Assistant pastors, home visitors trained as social workers, directors of religious education, nuns, deaconesses, and teachers in schools of religion are representative of the workers who aid the pastor.



*Underwood and Underwood*

#### THE SALVATION ARMY

The "lassies" are serving doughnuts to immigrants at Ellis Island.

Then there are others connected with the work of carrying on the business of the church. Corresponding secretaries of the church itself and of allied societies, treasurers, accountants, and similar office workers and executives find congenial employment in large church offices. Usually there is present in such an organization the controlling spirit of religious service which gives deep satisfaction to its workers.

One other group of religious and social workers requires attention here. The World War showed

what an important work is done by such organizations as the Red Cross, the Knights of Columbus, the Young Men's Christian Association, and the Salvation Army. All such organizations offer vocational opportunity.

If you are interested in the type of work they are doing, you can easily secure information concerning their activities. Closely allied to their work is that of the social-settlement workers. Their activities may be easily studied in the library, or by first-hand observation, if you live in or near thickly populated areas.

### 3. GUARDIANS OF THE BODY

**The Physician.** — As in the case of the pastor, your own experience has probably given you some idea of the duties of the physician. You know that his disposition and general intelligence have much to do with his success in your community, and that the more thorough his training, the more confidence his patients have in his ability. Perhaps there is no one worker in our society, not even the pastor, who has such intimate contact with the people whom he serves. There is often so close a relation between mental condition and bodily health that the physician many times becomes a confessor. Robert Louis Stevenson has paid tribute to the good physician in these words :

There are men that stand above the common herd — the physician almost as a rule. He is the flower of our civilization. Generosity he has such as is possible to those who practice an

art; discretion tested by a hundred secrets; tact tried in a thousand embarrassments, and what are more important — Heracleian cheerfulness and courage.

Gratitude is but a lame sentiment and yet I must set forth mine to a few out of many doctors who have brought me comfort and help.

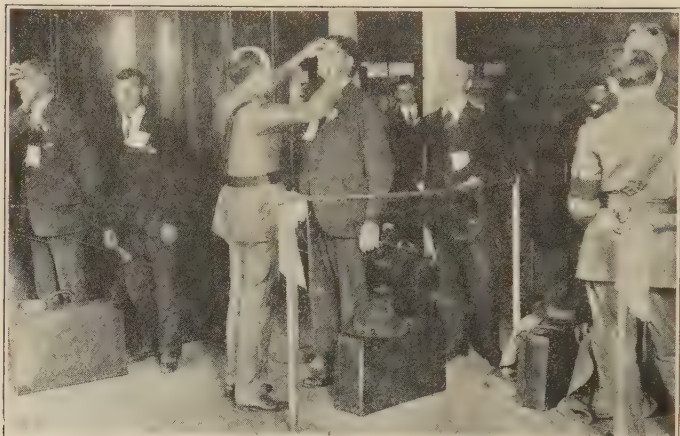


THE DOCTOR

From the painting by Sir Luke Fildes.

A keen, alert mind, good health, and the ability to get along with people when they are not at their best are three outstanding qualifications. No boy or girl who does not have the ability to do well in the academic studies of high school may expect to succeed in medical school. Preparation for practice requires six or more years in college and medical school and one year as an "intern" in a hospital. High-school science, particularly biology and chemistry,



*Keystone View Company***MEDICAL INSPECTION AT ELLIS ISLAND**

Review the illustrations on pages 14, 36, 39, 227, and 293.

offers a partial test of interest and ability in this field.

**Specialists in Medicine and Surgery.** — The most skilled physicians and surgeons are those who have had a general medical education and a general practice, and then have specialized. There are certain common divisions of specialization :

Eye, ear, nose, and throat diseases

Nerves — the neurologist

Brain — the psychiatrist

Children's diseases — the pediatrician

Skin diseases — the dermatologist

Other physicians select the heart, lungs, or other organs for specialization. Surgical operations are often a part of the work of all these *specialists*. A

## William C. Gorgas

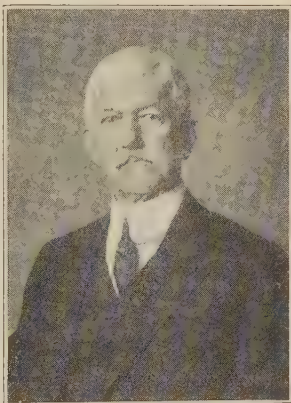
William C. Gorgas, an army surgeon, became the best-known public-health expert in the United States. His work made possible the development of Cuba and the construction of the Panama Canal.

He was born in Alabama, and received the greater part of his education in the South. After graduating from the University of the South, and later from the Bellevue Hospital Medical College, he joined the United States Army Medical Corps.

When the Americans occupied Cuba in 1898 during the Spanish-American War, Havana was a pesthole of filth and disease. Gorgas was given the task of cleaning up the city and stopping the epidemic of yellow fever which was raging there. After it was discovered that a certain mosquito carried the disease, he undertook the stupendous task of ridding Havana of mosquitoes. In this task his methods were successful. Since 1905 not a case of yellow fever has been reported in Havana.

Gorgas performed the same feat on a larger scale in Panama. By concentrating his efforts on wiping out the disease-bearing mosquitoes, he banished yellow fever completely from the region. It was only through his resourcefulness and untiring labor that this result was made possible. The number of lives he saved will never be known.

In recognition of his achievements, Gorgas was elected president of the American Medical Association in 1908, and later was appointed surgeon-general of the United States Army. In addition, he was awarded many medals and honorary degrees.



student who has a medical diploma qualifying him to practice surgery can more easily become a specialist.

Public-health service is a special field which has to do with infectious diseases, proper sanitary conditions of the milk and water supply, and disposal of sewage. These medical men and women are called *health officers, school physicians, medical inspectors, or medical directors.*

In addition to general medical training and experience, a specialist must show marked interest in and success with the special field selected, take graduate work in this field, and spend some time in a hospital clinic dealing with the specialty. Children's diseases are of particular interest to women for specialization. Surgery in its various branches requires a highly technical knowledge of anatomy and physiology as well as a skill with the hands equal to that of the most expert artisans.

**The Nurse.** — There are many male nurses, but most workers in this field are women, as they are better fitted for the usual duties of nursing. The *trained nurse* is skilled in attending to the needs and comfort of the patient. She is trained in hospital service, elementary hygiene and first aid, elementary dietetics, and surgical assistance. She may work independently from her home or in some institution. Public-health nurses have more regular hours.

The chief requirements are good health, interest in helping the helpless, a cheerful disposition, and skill

in caring for the patient. Carelessness may be fatal. High-school graduation and two or three years in hospital training are required in the best schools.

The *practical nurse* has learned her work from practical experience in her own or other homes, but she is not recognized as a professional nurse.

The *public-health nurse* is employed by schools, counties, states, the Red Cross, or any one of many other agencies. She visits homes where through ignorance, misfortune, or accident there is need for a nurse. She reports unsanitary conditions to proper health authorities and in many other ways tries to promote health in schools, homes, factories, and neighborhoods, according to the work to which she is assigned.

Nursing offers a professional career in health service at much less cost in time and money than the medical school demands. In addition, nursing offers one of the finest preparations for family home making. There are disadvantages in long hours, night



work, and often unpleasant surroundings. The nurse in private work, however, may decline a case, in order to take a needed rest — a thing which the physician usually cannot do.

**The Dentist.**<sup>1</sup> — There is specialization in dentistry, as in medicine, some dentists preferring to work only on the extraction of teeth, some on filling



THE SCHOOL DENTIST

*Keystone View Company*

New Jersey provides a dental ambulance for her rural schools.

them, and others on building artificial teeth and the framework of gold and other metal that is often used to keep them in place. Then, there are *dental assistants* who help the dentist in the laboratory or in work at the chair.

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<sup>1</sup>The professions of *dentistry* and *pharmacy* may not be quite so much affected by the motives which govern the work of the medical doctor or the pastor, but they have a close relation to the work of the former and so are considered here.

The *oral hygienist*, usually a woman, is employed in both dental offices and public schools. She has the task of inspecting teeth, helping school children and others to develop good habits in caring for them, and doing minor work, such as cleaning teeth. This prevention work is very important. An oral hygienist obtains a certificate from a dental school for one or two years of study and laboratory work.

Three to five years after graduation from high school are usually required for dental education. Several years of additional training are usually needed to build up a practice. Skill with the hands, dental knowledge, and the ability to get along with people under trying conditions are required for dental work.

**The Pharmacist.** — The drug store to-day has so many miscellaneous articles for sale that the highly technical *prescription service* of the pharmacist is likely to be overlooked. The main task of the pharmacist is the preparation of medicines according to a prescription signed by a physician. This work requires great care and accuracy as well as a thorough knowledge of chemistry.

Though pharmacy offers an interesting field, there are disadvantages in that the work is irregular, and in the fact that a pharmacist must usually spend time selling sodas, candy, and other things which do not require professional preparation. Working hours usually last into the evening, and Sunday may not be a day of rest in this profession. Hospitals and



laboratories manufacturing medicines also employ pharmacists.

Preparation for the work usually requires high-school graduation and three years of study in a school of pharmacy. A portion of this course of study is taken up in part-time work in an approved drug store. In this way a student may earn the money for most of his expenses during this time. Opportunities are open for young women as well as for young men.

#### 4. EDUCATION

**Workers in Education.** — Educational work is divided between two main groups of workers. Actual instruction is given by the *teacher*. The work of administration, that is, looking after the equipment, purchase of supplies, employment of personnel, and other matters connected with school organization, is carried on by *school administrators*. Usually the school administrator (superintendent, principal, or supervisor) has had considerable teaching experience.

You are familiar with the divisions of public-school organization, and know something about the workers therein. You must also bear in mind, in studying this branch of the professions, that there are many workers in special schools like trade and continuation schools, evening schools, colleges, and professional schools. The teachers of agriculture, cooking, nursing, business, medicine, journalism, and engineering are only a few of those who specialize in instruction

for some particular vocation. But no matter what their subject, they are all teachers and should manifest the traits which make teaching successful.

**The Teacher.** — We have already considered the most important quality necessary for successful teaching; namely, the willingness to devote one's life to implanting principles of right living. The teacher is a helper of humanity to the extent to which he improves the minds of his pupils. His chief service is rendered in setting before his pupils high ideals of life and then, through science, history, literature, and the arts, showing the pupils how to approach these ideals.

You see the teacher's service to men is somewhat different from that of the merchant who supplies food and clothing, or of the engineer who provides shelter or transportation. The latter supply material needs which are important in themselves only as they furnish energy and aid for the work of the mind and spirit, but the teacher builds habits of living and so shapes character.

**The Teacher's Tasks.** — The fact that you are reading this book shows that you know something of the teacher's daily tasks. You could not have gone thus far in school without learning something of the work of your teachers. But they do much more than you can observe. Hearing your lessons, keeping class records, helping you in your study are only a few of the teacher's labors. Long hours are spent in organizing the subject matter of your

## Charles William Eliot

No man has ever made a deeper impression on the educational system of America than Charles William Eliot, who was for forty years president of Harvard College. He was elected when only



thirty-five years of age, the youngest president of Harvard ever chosen. A graduate of Harvard himself, and a tutor there directly after his graduation, he came to his office with a thorough knowledge of conditions within the college.

His was not an easy path. Wherever he turned he encountered opposition, sometimes even ridicule, but he thrived on it. With head high, he met each rebuff and clung to his ideals for Harvard. He succeeded in accomplishing many needed reforms, and made of Harvard a university of world-

wide fame. He first introduced the elective system whereby a student might choose with almost unlimited freedom the courses which he wished to study. He substituted lecture courses for recitations, made examinations written instead of oral, and abolished compulsory religious worship.

His particular interest lay in the graduate schools. He put the Law School on its feet by making a college degree an entrance requirement and by putting excellent professors in charge of the courses. He made the Divinity School, which had been Unitarian, a broader nonsectarian School of Theology. He developed and brought into prominence the other graduate schools which gave the higher degrees.

Dr. Eliot was a man born for leadership. He was capable of thinking out and executing great plans. He chose his subordinates carefully with an instinctive keenness of judgment. He lived to be over ninety — a "grand old man" of great dignity and gravity, highly respected by all who knew him.

studies; much time is devoted to study of subjects such as pedagogy, psychology, school administration, and other subjects connected with the work of teaching. Summer vacations, seasonal holidays, and Saturdays are rarely the playtimes for teachers that they are for you. They must use these times for further improvement in professional skill.

Have you ever tried to take care of a six-year-old brother or sister for a full day? If so, multiply the day's problems by thirty, then by one hundred and eighty, and you will have a general idea of some teachers' work for a year. Add to this a need for constant exercise of sympathy, cheerful leadership, and happy devotion to service. Of course, having pupils who take pride in the neatness and order of the room helps wonderfully. What do you think? Would you make a good teacher?

**The Teacher's Training.** — Teachers for kindergarten are trained in special schools for the purpose. This course is usually a two- or three-year course after high-school graduation. Those who wish to teach in the grades prepare for this by a two- to four-year course in a normal school. Some normal schools have special courses for those who are preparing to teach special subjects. In practically all high schools, a teacher must have a college degree to his credit. Those who teach in colleges usually have higher degrees than the regular college degree.

**The School Administrator.** — A *principal* is the manager of one or more schools. His duties include

planning the assignment of teachers to subjects, rooms, and pupils, observing teachers and helping them to improve, directing the school activities, adjusting problems of teachers and of pupils which may be referred to him, and promoting sympathy and understanding between school and home and between school and community. The principal in many schools does some teaching.

A *supervisor* may be a specialist in some school subject like art, music, or shop work and mechanical drawing. He usually directs the work in more than one school. There may be a supervisor for all the work of a certain group of grades, like a primary supervisor, or a junior high school supervisor.

A *superintendent* has charge of all the schools in one community. Among other things, he estimates with the school board the taxation needed to support the schools, carries through new building programs, employs teachers, seeks to improve teaching and supervision, and endeavors to build up a stronger coöperation between schools and community. There are also district, county, and state supervisors and state superintendents of schools.

In some large high schools, and in colleges and universities, there are *department heads* in charge of those teaching a certain subject or group of subjects. *Dean* is the title given a man or woman in charge of a number of college or university departments which for some purpose are grouped together, like the school of education, the school of mines, or the college of liberal arts. Or the same title is frequently used to

designate a *counselor* who is trained in the work of advising with high school pupils about their problems. In the larger schools there are counselors for both boys and girls. The heads of colleges and universities are usually called *presidents*.

The chief requirements for administrators are teaching experience, the ability to inspire and to train teachers to improve their work, and the ability to handle the business side of schools and school management. There is no certain way of becoming a school administrator or supervisor without first becoming a successful teacher, though colleges and universities offer courses designed to prepare for school administration and supervision.

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

The keynote of this chapter is unselfish service. There are plenty of words or phrases in the chapter which may be used as guideposts. Choose one of these or make up one yourself.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) In your best printing, start this chapter's section of the scrapbook with the Golden Rule.

(2) Paste into your book pictures of men or women who have given or are giving their lives to service. Be sure that the titles of your pictures tell the kinds of work in which they are engaged.



(3) If you are planning to dedicate your life to one of the personal professions, there are certain outstanding qualities that you should cultivate. Make a list of these qualities in the order of their importance.

### THINKING THROUGH

1. To whom does the quotation at the beginning of the chapter apply?
2. What is being done to improve international relations? Do those engaged in this service belong in the world of work?
3. Discuss the expressions "Might makes right," "The race is not always to the swift."
4. What is the Golden Rule? Give an example of how it may apply to you.
5. The motto of Wellesley College is "Not to be ministered unto, but to minister." What does that mean? Why is it a good motto for a college? What has it to do with *service*?
6. What qualities should a pastor have in common with a business man?
7. What are the duties of a pastor outside the church?
8. What does the Y.M.C.A. do to justify its existence? What paid workers are employed in the organization?
9. What is the work of the Salvation Army?
10. What is an *intern*?
11. If you were to become a physician, which would you choose to be — a general practitioner or a specialist? Why?

### FIELD STUDIES

1. Talk with some one engaged in religious work and find out what preparation he or she has made for that vocation. Would you like to make that your vocation? Why?
2. Find out how many doctors there are in your town or city, and divide that number into the population. How many people does each doctor have to attend on an average? Is the profession overcrowded?

3. X-ray work is of great importance to physicians. Find out all you can about the work of X-ray specialists. Secure if you can an X-ray picture.
4. If you are a Girl Scout, explain to the class the things you must learn to do in order to get a merit badge for home nursing.
5. Find out from a dentist all the materials with which teeth are filled, the value of each kind, and some of the problems which he must meet.
6. From your own observation or from personal experience as a recitation chairman, you have learned what some problems of teaching are. Name several and discuss how such difficulties can be overcome.

#### INTERESTING READINGS

##### 1. *Stories and Biography*

*Juliette Low and the Girl Scouts* by Anne H. Choate and Helen Ferris

*Girls Who Did* (Marion Durell, Anne Carroll Moore, Mary Kingsbury Simkhovitch, Edna Watson Bailey, Margaret E. Maltby) by Helen Ferris and Virginia Moore

*Heroines of Service* (Clara Barton) by Mary R. Parkman

*The Roll Call of Honor* (Louis Pasteur) by Sir Arthur Quiller-Couch

*Careers* (The Physician, as told by Dr. William J. Mayo; Teaching, as told by Dr. Stratton D. Brooks to Esca G. Rodger)

*The Story of Grenfell of the Labrador* by Dillon Wallace

##### 2. *Other References*

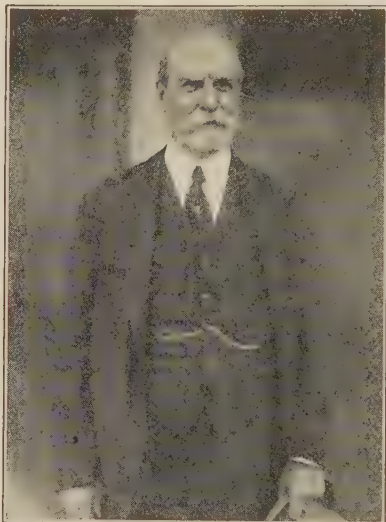
*Social Work* by Edward T. Devine

*Fields of Work for Women* (chapter xv) by Miriam Simons Leuck

*The Ministry* by Charles L. Slattery

## Charles Evans Hughes

Charles Evans Hughes is one of the most distinguished lawyers and statesmen of the present day. To each public position which he has held he has taken a sound judgment and an earnest desire to do his best for the people.



After graduating from Brown, he studied law at Columbia University and was admitted to the bar in 1888. He was first employed by a well-known firm of lawyers in New York, where he spent three years gaining valuable experience. Then he accepted a professorship at the Cornell Law School. In 1893 he returned to the firm of lawyers in New York and became a junior partner. Besides engaging in regular practice, he

lectured for the next seven years at the New York Law School. This was of great advantage to him, as he continued his study of law along with his practice, and in addition gained excellent training in interpreting and expounding the law.

Mr. Hughes has held many important offices. As governor of New York, which office he held for two terms, he accomplished many needed reforms. In 1910, he was appointed one of the associate justices of the United States Supreme Court. In 1916 he was nominated for president of the United States, but, because of his party's neglect of its Progressive element, lost the election to Wilson. In 1921 he was made Secretary of State, resigning from that position in 1925 to resume his law practice. In 1928 he succeeded John Basset Moore as the American member of the World Court.

## CHAPTER XIV

### THE POLITICAL PROFESSIONS

(And Allied Public Services)

*Public office is a public trust, the authority and opportunities of which must be used as absolutely as the public moneys for the public benefit, and not for the purposes of any individual or party.*

— EATON, *The Spoils System and Civil Service Reform*



CALIFORNIA'S STATE CAPITOL

#### 1. THE SCIENCE OF GOVERNMENT

**Servants of the Public.** — The political professions are those which have to do with affairs of government. Some, like *law*, though not in themselves a part of government, exist only because of the laws which the government has made and so are directly

concerned with government. Others, like *party politics*, are dependent on differences of opinion about governmental policies. Still others, by far the largest group, are actual vocations in government service.

*Political*, as used here, then, does not refer to matters of party organization alone, but keeps its original meaning of matters connected with the science or system of government. A true politician, in this sense, is not necessarily an agent of a party organization; more properly, he is a statesman versed in the science of government. *Polity* means the system of government which controls a nation, state, community, or any organized unit of society. If you remember this definition of *polity*, which comes from an old Greek word with much the same meaning, you will be able to keep clearly in mind what we mean by *political professions*.

Government workers attain the science level if their work requires special training and much experience for its successful accomplishment. Some of the allied professions, such as law, likewise require special study and experience for qualification. All government workers are servants of the public in the sense that their service is available to all citizens of the community or state for which they work. For example, federal, state, and municipal officers serve in a public capacity just as judges and senators do, and so are public servants.

**Divisions of Public Service.** — Probably every member of your class has had or is having some ex-



FAMILIAR PUBLIC SERVANTS—(1)

The lower picture is included simply to remind you boys and girls that progress in science and discovery has brought many changes even within the lifetime of your parents, all of whom have probably thrilled to the exciting spectacle of the horse-drawn fire engine.





*International Newsreel*



FAMILIAR PUBLIC SERVANTS — (2)

perience in the science of government. This experience may come from membership in some of your school organizations, in church societies, or in some social organization of your community. Most of you know something about the duties of presidents, chairmen, secretaries, treasurers, executive committees, and so on. Also, in your social-study classes you have probably learned that the common organization of local, state, and national governments calls for their division into three branches: executive, judicial, and legislative. Many schools are partly administered through pupil participation in these three branches of school government. With this experience you have a good start in the vocational study of the political professions.

## 2. THE GOVERNMENT SERVICE

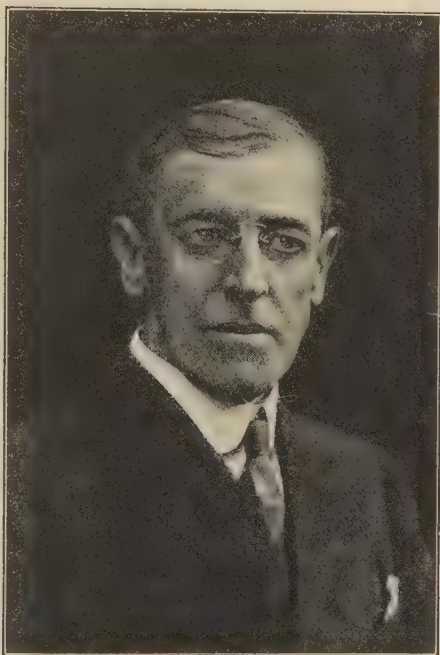
**Classification of Public Services.** — For convenience, we shall follow the classification of the federal government in our discussion here, but you should keep in mind that state, county, and local governments perform similar services and so require similar workers. Therefore, as you proceed in the study, look for these similarities. Where you find differences, make special note of them for class consideration. Note also that these various services are really occupations whose duties lie in their respective vocational fields of agriculture, business, industry, home making, and the professions. They are occupations belonging to these several fields but set apart

as a special group because of their relation to the government.

The President's Cabinet gives us a good beginning in our study of government vocations. Each member is executive head of a branch of the government service. In Washington's time the Cabinet had only three members. Since that day the great increase in governmental activities has caused the creation of various new executive departments and bureaus to perform the additional duties. The heads or *secretaries* of these new departments become automatically members of the President's Cabinet and are responsible to the President alone, who appoints them.

**Executive Services.** — Such workers as the clerks, laborers, and assistants in the executive departments belong on the little-skill and skilled levels. But, of course, there are also many executives whose training and experience place them on the science level. Here again we are limited by space to mere suggestion of a large number of these vocations. The outline found in the Appendix will tell you what departments are now represented in the Cabinet and what services each one renders. Some of these services we have already studied, as on pages 110 and 175, others are evident in our daily life, but still others are little known by the majority of people. All of them may be classed as *executive services* since they come under the direction of men immediately responsible to our chief executive, the President.

## Woodrow Wilson



Woodrow Wilson ranks among our greatest presidents. Born and reared in the South, his public career emphasizes the idealism for which Southern statesmen are noted. Wilson is a splendid example of one who, after becoming a leader in his profession, devoted his talents to public service.

After graduating from Princeton, he taught history and government in several colleges. He was then elected president of Princeton. His progressive policies there made him popular, and in a reform movement he was elected governor of New Jersey. Three years later, he became president of the United States. During his administration many progressive measures were passed, such as the Federal Reserve System, Federal Trade Commission, Parcel Post, and the Tariff Commission.

(Do not forget to compare town, county, and state executive services.)

**Judicial Services.** — Another type of public service, administered as a government enterprise, is that of the judiciary. The laws of the land must be enforced in an impartial way if our government is to have support and respect. For this purpose our Constitution provides that judicial power shall be given to one Supreme Court and to such inferior (lower) courts as Congress may from time to time establish.

At present, in addition to the Supreme Court, our government has a number of Circuit Courts of Appeal, a much larger number of District Courts, and two special courts. From their specialized nature these courts require the services of many professionally trained workers whose duties and vocational privileges you have probably already studied in your civics classes. If not, you will study them later. If you want to follow them up now, you can easily learn of them from library sources. (Do not forget local, county, and state courts.)

**Legislative Services.** — You know that the legislature of the United States is called the Congress. It consists of a House of Representatives whose membership is based on population, and a Senate in which each state has equal representation. Naturally, vocational opportunity should be a secondary consideration in the desire to serve as a legislator, but many men especially well qualified for such service

must of necessity consider its financial rewards and carefully determine whether they can afford to run the risks involved in changes of the people's political sentiments and personal preferences. Surely, this service of law-making is one of the most important rendered to society. A man elected to Congress has a moral obligation which he may not carelessly disregard.

In studying the vocational aspect of the several government services, you will be interested to find out the requirements concerning age, length of citizenship, residence, and other qualifications, if a man is to enter one of these services in an official capacity. Also, try to learn what services are performed by subordinates, that is, what personal assistance is given various government officials. For example, there are a large number of experts who devote their entire time to the assistance or protection of high government officials. They range from the personal body-guard of the President to the private secretary of a senator, and all belong to the skilled or to the science level of the political vocations. (Remember local, county, and state governments.)

**Political Parties.** — Closely allied to our system of government is the system by which we nominate and elect our representatives. For the most part, the nation expresses its wishes and judgments by voting for the candidates of one or the other of the two major parties, Democratic and Republican. A huge political machinery is necessary to make these





#### MUNICIPAL AND FEDERAL EMPLOYEES

Street cleaners, health inspectors, mail clerks, garbage collectors, park laborers, and hosts of similar workers are in our public service.

parties effective, and so another group of political professions has grown up in connection with party management.

Too often this system has given rise to a set of executives known as *party bosses*, men who usually exercise political power for personal profit. Only as people of high moral standards enter the professions of party leadership can our country hope for the right sort of party control. Study your local government, find out all you can about state and national politics, and then, if you have the necessary qualifications, determine to have a hand some day in making and keeping this government one which shall be of, by, and for the people.

### 3. THE LAW

**The Growth of Law.** — Since the dim ages of long ago when people found safety through living together in families, clans, and tribes, it has been found necessary to make and to enforce laws. In those early days, laws were as simple as they were severe. To-day, our community, county, state, and national life is governed by a massive system of laws which has been centuries in the making. That is why law in some respects is the most important of all the political professions. This statement may seem too broad, until one pauses to consider that legal authority controls practically every act of every person in society. Law is a political profession because it depends for its existence upon the body of laws which make a government secure.

Our American law is based upon the principle of equality of opportunity, which means ordered liberty, liberty within the law, or living according to the rights of others. Human nature is not perfect, and so we have much law-breaking because of selfishness and dishonesty. Human intelligence is limited, so



COUNTY COURT HOUSE, RIVERSIDE, CALIFORNIA

some laws are broken through ignorance. Our modern civilization is so complex that many laws are needed to cover the thousand and one situations which daily require adjustment. Therefore we need workers specially trained in classifying, interpreting, and invoking these laws. Such work belongs to the lawyer.

**The Lawyer's Place in Society.** — The physician practices under law, the clergyman officiates in marriages and funerals through law, schools are established, roads are built, businesses are incor-

porated, incomes are taxed, houses are erected, automobiles are run, goods are imported or exported, and thousands of other acts performed — all subject to law. It is no wonder, then, that those who enforce the laws may be our best friends or worst enemies according to our acts; they are the most powerful members of organized society. Because they can, by their knowledge and ability, most easily influence the making of new laws, their intelligence, honesty, and independence are vital factors in our life. Therefore, we are glad when intelligent, upright, fearless men enter this profession. From their number must come our judges, many of our legislators, and some of our executives.

A lawyer is a man or a woman who answers the question as to what corporations, state governments, or neighbors in a disagreement may and may not do. There are general practitioners and specialists in law just as there are in medicine.

**The Work of Lawyers.** — The general practitioner knows "common law" as applied to the rights of individuals and communities, and knows where to find court decisions of the past upon which to base his advice to clients. He draws up contracts and deeds for mortgages and sale of property in a form required by law. The specialist, though he knows general law, has made a study of some special branch, such as criminal law, corporation law, patent law, tax law, insurance law, real-estate law, divorce law, or international law.

The work of the majority of lawyers, no matter what their field, is of two general kinds : (1) advising people about the requirements of law, and (2) defending the rights of their clients before a court of law. Some lawyers coöperate in preparing laws for the legislature ; still others serve as municipal, county, state, and federal prosecuting attorneys, justices, and judges. Such officers are part of the machinery needed to uphold the rights of the public, including the punishment of criminals and the protection of the oppressed.

To be successful a general lawyer must have good scholarship, special talent in speech, skill and patience in research, and an unusual ability to think straight. Although large sums are paid to experts as legal advisers, there are disadvantages in this profession. It is overcrowded because the standards of admission are still too low. The scramble for business makes it difficult for honest lawyers with high ideals to make a living. However, this situation is changing so that to-day a man or a woman of marked ability and character who obtains a law education, preceded by four years of college, and then specializes either in business practice or in government service, has many opportunities for success.

#### 4. PROFESSIONS IN GENERAL

**What the Professions Offer.** — There are many individual professions not mentioned in this book. There are none, however, which you cannot readily place according to the classification made by the text.

There are advantages and disadvantages in this field as in all other fields. One lawyer may starve and another become wealthy. One religious leader may have all the comforts of city life and a large church; another through his service to some scattered parish in the mountain districts may suffer many deprivations and hardships. Training for the professional level may not insure a large salary, but it does improve one's contributions to his community, and enriches his own life.

**The Professions and You.** — Looking at the professions from your present point of view, the chief requirement is the ability to master your academic studies. A pleasing personality is as helpful to success in the professions as it is in any other field. One also must be honest, conscientious, and alert. For professional work more than for any other, you must master the science of the vocation, and thereafter keep pace with new developments and modern methods.

## CONCLUSION

**Achievement.** — Most of you boys and girls can attain the skilled training level in some field. Some of you have so much difficulty now with academic school subjects that you will be happier, later in life as well as now, in doing work that calls chiefly for hand skill. Others of you may have the ability to master your English, your "math," and your science, but so far lack the ambition necessary to gain this mastery. If this is so, wake up and make



up for what you have lost. "There is no excellence without great labor."

Then, there are still others of you who have the ability that is needed to prepare for the science level and are applying the effort needed to attain success, workmen "that need not to be ashamed." Do not



EARNING WHILE LEARNING

*Keystone View Company*

These boys have found a way of self-help in acquiring their college training.

worry if you do not know at present just which field you wish to enter. As your education progresses, you will gradually discover your proper vocation. If the science level is your standard of ability, but the money for such training seems impossible to obtain as you and your parents look ahead, do not be too sure that a scholarship, a coöperative college

course, or some plan of self-help may not be possible. You will consider these possibilities in the next book of this series, *Our World of Education*.

He who has learned to love an art or science has wisely laid up riches against the day of riches; if prosperity come, he will not enter poor into his inheritance; he will not slumber and forget himself in the lap of money, or spend his hours in counting idle treasures, but be up and briskly doing; he will have the true alchemic touch, which is not that of Midas, but which transmutes dead money into living delight and satisfaction. *Etre et pas avoir* — to be, not to possess — that is the problem of life. To be wealthy, a rich nature is the first requisite and money but the second. To be of a quick and healthy blood, to share in all honorable curiosities, to be rich in admiration and free from envy, to rejoice greatly in the good of others, to love with such generosity of heart that your love is still a dear possession in absence or unkindness — these are the gifts of fortune which money cannot buy, and without which money can buy nothing.

— ROBERT LOUIS STEVENSON

### MY GUIDANCE SCRAPBOOK

#### 1. *My Guidepost*

There are perhaps no professions which demand more agile brains than the *political*. An active, intelligent mind combined with integrity of character insures the highest success in the political field. As your guidepost, use a slogan which emphasizes these two important qualifications.

#### 2. *Chapter Information*

Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

#### 3. *Scrapbook Suggestions*

(1) From newspapers or current magazines obtain pictures of men or women who are in the public eye because they are

"servants of the public." Find at least one representative of each division of government, local, state, and national. A picture of the President of the United States will surely be in this collection. Before pasting these in your books, have a class exhibition and appoint a committee to choose the best picture submitted in each division.

(2) Take a snapshot of the building in your community in which local laws are made. If you live in your state capital, take a picture of the building in which the state laws are made. (In case you have no camera, postcards may be used.) Then, to complete the group, if you have any pictures of public buildings in Washington, add them to your collection.

(3) Cut from a newspaper or magazine a cartoon which cleverly portrays a political situation now holding the attention of the public. Underneath the cartoon write a brief explanation of the picture.

(4) Make a list of our former presidents who were at one time lawyers. After this list write a sentence or two in discussion of your findings.

(5) Let the concluding pages of your *Scrapbook* be a discussion of the hopes, ambitions, and ideals which you wish to realize in your life career. Tell what vocation most appeals to you now, how you propose to fit yourself for that vocation, and what part you believe you ought to take in the affairs of your home, community, and nation. Close your discussion with a quotation of a poem or a paragraph from some essay which expresses well your own thoughts.

### THINKING THROUGH

1. Give a definition of each of the three divisions of government — legislative, executive, and judicial.
2. Who makes the laws of your town or city? of your state? of the United States?
3. Who sees that the laws are carried out in your town or city? in your state? in the United States?

4. What qualities and training should a man have to be a good party leader?
5. Why is the occupation of political "boss" unworthy of a public-spirited citizen?
6. For what reasons do people enter politics?
7. What are the most important national parties? What are the main differences between them?
8. Should a citizen vote for a man who has admirable personal characteristics but belongs to a party opposed to the voter's principles, or should he consider party principles of more importance than the character of the candidate?
9. If you are interested in getting into politics, what high-school courses of study will be particularly valuable to you?
10. One way of serving the United States government is to join the army or navy. In order to attain the science level in this vocation, certain qualifications are necessary. What are they?
11. In what government department is the Weather Bureau? Of what service is it to the public?
12. Name five important positions which may be obtained only through a civil-service examination.
13. What qualities would you wish the president of your class to have? Should these same qualities be required in executive officers of all vocations?
14. Who are the present members of the President's Cabinet?
15. Can one practice law after completing a course at a law school? If not, what additional requirements must be met?
16. If you should become a lawyer, would you choose to obtain your first experience in a large office in a very subordinate position, or would you prefer to start in for yourself in a small city? Give your reasons.
17. After your study of the principal occupations in our world of work, what qualities in general do you consider necessary to help you attain the science level?

## FIELD STUDIES

1. Send for the catalogue of a large university which has a law course, and find out some of the subjects which make up the course. Which ones are most interesting to you? Why?
2. By visiting a juvenile court or by talking with a probation officer, or by research in your library, find out something about the work done among lawless boys and girls.
3. Prepare a speech for the purpose of nominating a person for president of student government in your school. Of course, you will want your audience (the class) to understand why your candidate is suited to such an office; so bring out his qualifications in a simple yet forceful way.
4. Secure an interview with a man who holds a political or government position. Find out whether his position was obtained by appointment or by election, and whether it is dependent upon the party in power. What is the nature of the work? What training does the position demand?

## INTERESTING READINGS

1. *Stories and Biography*

*Adventures of Theodore Roosevelt* by Edwin Emerson

*Careers* (Law, as told by Franklin D. Roosevelt to Esca G. Rodger)

*Girls Who Did* (Jean Norris) by Helen Ferris and Virginia Moore

*Modern Great Americans* (Elihu Root, John Joseph Pershing, Woodrow Wilson) by Frederick H. Law

*The Boys' Own Book of Politics* by William G. Shepherd

*Real Americans* (Leonard Wood) by Mary H. Wade

2. *Other References*

*Fields of Work for Women* (pages 269-278) by Miriam Simons Leuck

*Making a Living* (pages 442-559) by Leverett S. Lyon

*Success Through Vocational Guidance* (pages 40-45) by James McKinney and A. M. Simons

CHOOSING MY VOCATIONAL FIELD AND  
TRAINING LEVEL

Without consulting any books — even the previous chapters of this — analyze your present and future possibilities with the following outline :

1. Which of the five main fields interest me most?
2. What training level interests me most?
3. What vocations interest me most, now? (Make this as definite as you can, naming specific vocations, such as stenographer, pattern maker, electrical engineer, etc. It is probable you will want to name several.)
4. My basis for the choice of three which interest me most :
  - a. First choice. (Tell of books and articles read, people conferred with, lectures heard, places of work visited, school studies, actual work outside school, etc.)
  - b. Second choice. (Give your sources of information, as for your first choice.)
  - c. Third choice. (Give your sources of information, as for your first choice.)
5. Some outstanding points of interest to me, in the vocation given as first choice. (What is there about this vocation that has made it of unusual interest?)
6. My abilities and interests
  - a. School progress
    - (1) What year in school?
    - (2) How old on my last birthday?
    - (3) Rating at end of last school year
    - (4) Average amount of time used daily in preparing all lessons, school study hours and home study combined
    - (5) The opinion of my school adviser as to my capacity along school lines
  - b. Special abilities or interests
    - (1) Music
    - (2) Writing
    - (3) Art



- (4) Trading
  - (5) School subjects liked most
  - (6) Meeting people
  - (7) Public speaking
  - (8) Organizing and managing clubs
  - (9) Managing a business
  - (10) Keeping accounts of money earned, spent, and saved
  - (11) Repairing things around the house
  - (12) Experimenting
7. The field and level to which these facts point. (By this time you know that each field has much in common with the others—that business and science, for example, extend through each of the five. So which field you are to choose requires considerable thought on your part. By now you probably can make a good trial choice.
- Remember that the *level* is in most respects a more important decision than the *field*. If the chances are good that you can go on in school after leaving senior high school, the exact field need not be of such great concern. It does make school more vital to you, though, to have a preference in field, as well as to know the training level for which you are best fitted.)
8. The course of electives I should take. These should be in line with the field and level. Study again the diagrams on pages 57 and 71.
9. Further training I need
- a. School training
  - b. Practical experience
10. Some problems I must solve
- a. In school work
  - b. In my own personality
  - c. In obtaining money to complete the training I need
  - d. Other problems to be met

## APPENDIX

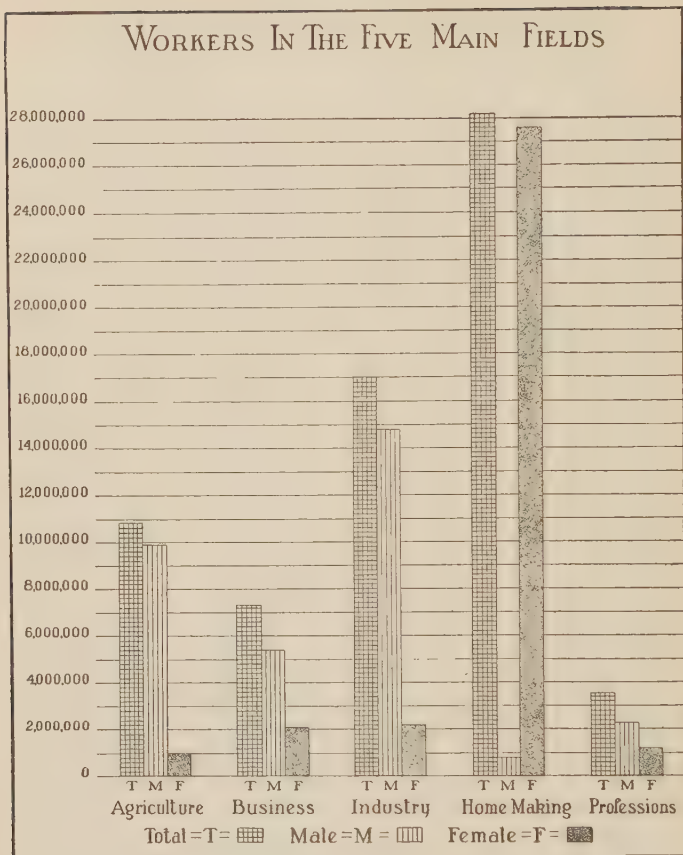
## THE FEDERAL SERVICES OF THE UNITED STATES

THE PRESIDENT			
CONGRESS		SUPREME COURT	
SENATE	HOUSE	CIRCUIT COURTS	DISTRICT COURTS
DEPARTMENT OF STATE		DEPARTMENT OF JUSTICE	
Diplomatic Bureau	Consular Bureau	Solicitor General	Bureau of Investigation
Division of Western European Affairs	Division of Foreign Intelligence	Public Lands Division	Admiralty
Division of Far Eastern Affairs	Office of Foreign Trade Advisor	Taxation and Insurance Div.	Finance
Division of Near Eastern Affairs	Division of Passport Control	Customs Division	Foreign Relations and Insular Affairs Div.
Division of Latin American Affairs	Division of Russian Affairs	Bureau for Defense of Suits	Anti-Trust Laws Div.
Division of Mexican Affairs	Bureau of Indexes and Archives	Criminal Procedure Division	Federal Prison Section
DEPARTMENT OF THE TREASURY		U. S. District Attorneys	Pardon Attorneys
Commissioner of the Public Debt	Federal Farm Loan Bureau	Nat'l Training School for Boys	U. S. Marshals
Division of Loans and Currency	Secret Service Division		Nat'l Training School for Girls
Register of the Treasury	Government Actuary	Departmental Solicitors	
Div. Public Debt Accts. and Audit	Division of Foreign Loans	POST OFFICE DEPARTMENT	
Savings Division	Advances & Loans to Railroads Div.	Postmaster General	Third Assistant Postmaster General
Commissioner of Accts. and Deposits	Bureau of Engraving and Printing	Division of Postal Savings	Div. of Finance
Div. of Bookkeeping and Warrants	General Supply Committee	First Assistant Postmaster General	Div. of Stamps
Division of Deposits	Bureau of the Pub. Health Service	Div. of Postmasters Appointments	Div. of Money Orders
Treasurer of the United States	Supervising Architects Office	Div. of Post Office Service	Div. of Registered Mails
Comptroller of the United States	The Coast Guard	Div. of Dead Letters	Div. of Classification
Bureau of the Budget	Bureau of Internal Revenue	Second Assistant Postmaster General	Fourth Ass't Postmaster General
Mint Bureau	Customs Division	Railway Mail Service	Division of Rural Mails
DEPARTMENT OF WAR		Division of Foreign Mails	Division of Equipment & Supplies
General Staff Corps:	Bd of Engrs Rivers & Harbors	Division of Railway Adjustments	Topography Branch
Office of Chief of Cavalry	Office of Public Bldgs & Grounds	DEPARTMENT OF THE NAVY	
Office of Chief of Field Artillery	Mississippi River Commission	Naval Consulting Board	Bureau of Navigation
Office of Chief of Infantry	California Débris Commission	Compensation Board	Hydrographic Office
Office of Chief of Chaplains	Office of Chief of Ordnance	Office of Naval Operations	Naval Observatory
Office of Chief of Coast Artillery	Office of Chief Signal Officer	Operating Forces Division	Bureau of Yards and Docks
Militia Bureau	Office of Chief of Air Service	Intelligence Division	Bureau of Ordnance
Office of Adjutant General	Bureau of Insular Affairs	Communication Division	Bureau of Construction and Repair
Office of Inspector General	Philippine Government	Material Division	Bureau of Engineering
Office of Judge Advocate General	Porto Rico Government	Naval Districts Division	Bureau of Supplies and Accounts
Office of Chief of Finance	Dominican Recelvership	Inspection Division	Bureau of Medicine and Surgery
Office of Surgeon General	Chemical Warfare Service	Gunnery Exercises and Engineering	Office of Judge Advocate General
Office of Chief of Engineers	War Credits Board		Headquarters Marine Corps
Inland and Coastwise	Waterways Service		

## THE PRESIDENT

## INDEPENDENT ESTABLISHMENTS

LIBRARY PRINTING AND SCIENCE	COMMERCIAL AND INDUSTRIAL	WAR BOARDS, ETC.	MISCELLANEOUS
Library of Congress Copyright Office	Interstate Commerce Commission	Veterans Bureau U. S. Shipping Board U. S. Emergency Fleet Corporation	U. S. Interdepart- mental Social Hygiene Board
Government Printing Office	The Panama Canal Federal Reserve Board	National Advisory Commission for Aeronautics	International Bound- ary Commis- sions
Superintendent of Documents	Federal Trade Com- mission	Joint Commission on Reclassification of Salaries	Inter American High Commission
Smithsonian Institu- tion	United States Tariff Commission	District Rents Com- mission	U. S. Geographic Board
National Museum Bureau of American Ethnology	Civil Service Com- mission	Botanic Gardens Rock Creek Park and Potomac River Parkway Com- mission	Board of Surveys and Maps
National Zoological Park	United States Bureau of Efficiency	War Finance Corpora- tion	Commission of Fine Arts
Astrophysical Ob- servatory	Board of Mediation and Conciliation	U. S. Railroad Labor Board	Arlington Memorial Amphitheater
International Catal- og of Scientific Literature	U. S. Employees' Compensation Commission	U. S. Railroad Admin- istration	National Homes Vol- unteer Soldiers Soldiers' Home Regu- lar Army
International Ex- change Service	Federal Board for Vocational Educa- tion	International Joint Commission	Board of Road Com- missioners, Alaska
National Academy of Sciences	Federal Power Com- mission		Commission on Navy Yards and Sta- tions
National Gallery of Art	Comptroller General of U. S.		Board of Indian Com- missioners
National Research Council	Pan American Union	American National Red Cross	The District of Columbia



This graph is based on the occupational statistics of 1920, with certain combinations to satisfy the reduction of the nine census fields into five. Remember that the figures include the numbers of women who have been married, those engaged in domestic service, and those in institutional home making. This means, of course, that certain groups of women included in one column are duplicated in another.

# HOW TO APPLY FOR A POSITION

## 1. THE LETTER

Often a letter of application precedes a personal interview with the employer. If you have occasion to write such a letter, the following rules will be useful.

- (1) Select plain, white, business paper upon which to write your application.
- (2) Take great care to have your writing neat and legible, and your grammar, spelling, and punctuation correct.
- (3) Include the following information in your letter :
  - (a) Your reason for applying for the position
  - (b) Your qualifications
  - (c) The names, occupations, and addresses of at least two persons qualified to judge your character and ability.

Copy and re-copy your letter until you know you have said just what you ought to say, no less and no more. Be as brief as possible. If the arrangement of your letter is business-like, if it contains no blots, erasures, or crossed-out words, you may be sure that your prospective employer will give your letter a careful reading.

## 2. THE PERSONAL INTERVIEW

When you apply for a position in person, you will be judged by your appearance, general bearing, and speech.

Appearance :

- (1) Have your face, hands, neck, and finger nails clean.
- (2) Comb your hair neatly.
- (3) Clean, brush, and press your clothes.
- (4) Shine your shoes.
- (5) Do not wear clothes extreme in style or color.



## Bearing :

- (1) Try to appear at ease.
- (2) Be businesslike.
- (3) Be confident.
- (4) Do not slouch or lounge in your chair.

## Speech :

- (1) Avoid slangy expressions.
- (2) Speak clearly and distinctly.
- (3) Keep your voice pitched low.

Your prospective employer will be favorably or unfavorably affected by your personality. You are trying to sell your services; so you must be ready to talk about yourself in a pleasing and convincing manner. Be earnest and enthusiastic. An applicant, especially a beginner, often gets a job because he shows that he wants it very much. Be courteous, and be interested in what your employer has to say. Remember that a pleasant smile will go far toward making a good impression.

# OUTLINE FOR INTENSIVE STUDY OF AN OCCUPATION<sup>1</sup>

## A. What the worker does

- (1) Duties of the position
- (2) Hand and machine processes and physical work involved
  - (a) Hand and machine processes and proportion of time devoted to each
  - (b) Predominating postures
  - (c) Movements of the whole body, arms, hands, fingers, and lower limbs, and approximate amount of time devoted to each. Positions and movements requiring unusual strength or endurance, and length of time sustained
- (3) Mental work
  - (a) Mathematical and other computations
  - (b) Work requiring combination of technical knowledge (along lines of mathematics and science) and hand and machine skill. Instruction to others, supervisory and administrative duties

## B. What the occupation offers the worker

- (1) Favorable working conditions and stability in employment, or the reverse
  - (a) Safety and health

Machines, acids, gases and ventilation, heat, light, dust, hot metals, collision; other dangers

Medical and surgical facilities and first aid

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<sup>1</sup> From Bulletin 13 of the Pennsylvania Department of Public Instruction.

- Hours conducive to right eating and sleeping habits
- Locality healthy — free from excess particles in the air, undue dampness, impure water supply, animal or other decomposition
- (b) Social surroundings
  - Welfare activities — athletics, clubs, library, restaurant, shop benefit, and other associations
  - Personal contacts — with people having high ideals and clean character
- (c) Financial return
- (d) Participation in the management
- (e) Regularity of employment — freedom from seasonal, periodic, or other periods of inactivity
- (f) Work during the daytime, or night shifts
- (g) The occupation growing in importance and in number of workers employed
- (h) No more workers being attracted to the field than it can properly absorb
- (2) Promotion
  - (a) Opportunities for training for higher positions through work done
  - (b) Selections for promotion how made: Qualities in technical skill and knowledge, personal qualities otherwise, possession of capital, favoritism, or family relationships
  - (c) Lines of promotion — vertical (dependent on promotion or removal of person next higher) or oblique (not dependent on promotion or removal of person in next position above)
  - (d) Positions in these lines of promotion, in their order upward
  - (e) Range of occupational contacts, opportunity for observing other work in progress, meeting workers in same or other lines, meeting administrators who may become interested in what workers are trying to accomplish

- (f) History of positions investigated as indicated by following:
  - Time this position was held by consecutive workers at a given machine, bench, or table
  - Reasons for leaving
  - Positions which worker subsequently occupied
- (3) Opportunities afforded for home life, recreation, cultural growth, and participation in community activities
  - (a) Can the worker be at home with his family each evening?
  - (b) Is employment required on Sunday?
  - (c) Is there a vacation period?
  - (d) Can the worker live near enough to the work so that he can have two meals a day with his family? Does the worker have to live so close to his work that he cannot get away from it?
  - (e) Can the worker be where there are good library facilities, where he can attend good lectures, and attend worth-while productions in music and drama?
  - (f) Does the employment permit the worker to take any active part in church and community life?

### C. What the occupation requires from the worker

- (1) Personal characteristics
  - (a) General intelligence
    - Memory for things seen, heard, and touched, understanding of directions given by others verbally or in writing; ability to distinguish between colors; mathematical reasoning; analysis of conditions, seeking cause and effect; ability to meet new situations
  - (b) Habits in work
    - Industry, thoroughness, and dependableness; originality, initiative, and resourcefulness; accuracy, neatness, and expeditiousness in work

done ; courtesy, pleasing countenance, neatness of dress, erect carriage, tact and poise both in meeting people and in working with them ; effectiveness in speech and in letter writing

(c) Physical qualities

Height, weight, physical strength, ability to endure eye strain, excellent hearing, agility and quickness in body action, hands, fingers, feet

(2) Education and training

(a) Sixth grade education

(b) Completion of junior high school

(c) Completion of senior high school

(d) Engineering or other collegiate or professional school education

(e) Training in special subjects that may be obtained in special classes, like mechanical drawing and trade mathematics, or in home reading

(f) Training that is readily obtained on the job — in hand skill and machine operation, in technical knowledge

(3) Conditions making for promotion after position has been obtained

(a) Educational

Courses in evening school: high school, collegiate, and professional

Correspondence school, and books, periodicals, and trade magazines for evening study

(b) Conditions on the job

Work, not required, that will bring greatest promotion dividends, and personal qualities that will help most

**D. Summary as to service rendered, and personal application of occupational study to pupil**

(1) Does the worker perform a useful service that is essential to the well-being of people and the progress of our times?

- (2) Is this occupation one I should like to follow as a vocation?
- (3) Points I like about the occupation and points I dislike, and why
- (4) Does work done call for all the mental ability, education, training, experience, and desirable personal characteristics I possess? What ability do I have that is not required? In what respects am I lacking?
- (5) What preparation that I lack, in school training and experience, would help me most in getting into the position and succeeding in it?



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<sup>1</sup> These are but a few of the many helpful references for teachers. For others, see the bibliographies listed in the above books, especially those of the books marked with an asterisk.



## SOURCES OF VISUAL MATERIALS FOR THE STUDY OF OCCUPATIONS<sup>1</sup>

*Free films and slides may be had for transportation charges upon application to the agencies mentioned below.*

### SLIDES

Corticelli Silk Company, 136 Madison Avenue at 31st Street, New York — silk.

General Electric Company, Schenectady, New York — electricity, lumbering, manufacturing, navigation, radio.

International Harvester Company, 606 Michigan Avenue, Chicago, Illinois — agriculture, canning, dairying, home economics, lumbering, manufacturing, poultry raising.

State Libraries and Museums — all subjects.

Philadelphia Commercial Museum — commerce, transportation.

State Departments of Agriculture, Fish and Game, Forests and Waters, Health, Highway, Labor and Industry, Mines, Welfare, etc.

United States Departments and Bureaus, Washington, D. C.: Agriculture, Commerce, Labor, Interior, Mines, Public Health Service.

Victor Animatograph Company, Davenport, Iowa — industry, music, science.

### FILMS (35 mm.)

Air Reduction Sales Company, 342 Madison Avenue, New York — oxygen.

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<sup>1</sup> For this list of references, acknowledgments are due to Dr. C. F. Hoban, Director of Visual Education, Pennsylvania Department of Public Instruction.

American Optical Company, Southbridge, Massachusetts — eyes.

American Rolling Mill Company, Middletown, Ohio — iron manufacture.

American Steel and Wire Company, 208 S. LaSalle Street, Chicago — wire rope, laying cable, piano, pipe organ, harp.

Bakelite Corporation, 247 Park Avenue, New York — bakelite.

Bell Telephone Company (apply at nearest office) — safety, telephoning, telegraphing, television, industries, civics.

Corticelli Silk Company, 136 Madison Avenue at 31st Street, New York — silk.

Dodge Brothers, Inc., Detroit, Michigan — automobiles.

E. I. DuPont de Nemours and Company, Inc., Wilmington, Delaware — science and building.

Ford Motor Company, Detroit, Michigan — industry, agriculture, and many other subjects.

General Electric Company, Schenectady, New York — electricity, navigation, manufacture, forestry, radio, etc.

Harcot Motion Picture Industries, 610 Baronne Street, New Orleans, Louisiana — industries.

Hercules Powder Company, Wilmington, Delaware — turpentine, electric blasting, manufacture of blasting caps, explosives.

International Harvester Company, 606 South Michigan Avenue, Chicago — agriculture, home economics, canning, dairying, poultry raising, lumbering, and manufacture.

J. Alexander Leggett Company, 247 Park Avenue, New York — Lenox China, crackers, cookies, cakes, musical instruments.

Long-Bell Lumber Company, Kansas City, Missouri — lumber and its uses.

James C. Muir Company, 10 S. 18th Street, Philadelphia — wide list.

National Cash Register Company, Dayton, Ohio — science.

New York Central Lines, 639 LaSalle Street, Chicago — milk, transportation.

Parkes-Cramer Company, Fitchburg, Massachusetts — industrial engineering.

Philadelphia Commercial Museum — commerce, transportation.

Picture Service Corporation, 71 West 23d Street, New York — printing.

Prudence Company, Inc., 331 Madison Avenue, New York — real estate.

Ray-Bell Films, Inc., 817-823 University Avenue, St. Paul, Minnesota — industry, science.

Rothacker Industrial Films, Inc., 542 Fifth Avenue, New York — rubber industry, testing automobiles, cattle and packing industries, preparation of cereals, baking powder.

Singer Sewing Machine Co., New York — home making.

United States Steel Corporation, Safety Bureau, Washington, D. C. — industrial and welfare material.

United States Departments and Bureaus, Washington, D. C.: Agriculture, Commerce, Labor, Interior, Public Health Service.

Western Electric Company, 120 West 41st Street, New York — telephone and telegraph.

Westinghouse Electric and Manufacturing Company, Pittsburgh — lecture, film service dealing with electricity.

Y. M. C. A., 120 West 41st Street, New York — a comprehensive collection.

*The slides and films supplied by the following agencies are not free.*

#### GLASS SLIDES

Williams, Brown, and Earl, 918 Chestnut Street, Philadelphia.

Atlas Educational Co., 5 N. Wabash Avenue, Chicago.

Keystone View Company, Meadville, Pennsylvania.

Spencer Lens Co., Buffalo, N. Y.

## FILM SLIDES

Spencer Lens Co., Buffalo, N. Y.

Society for Visual Education, 327 S. LaSalle Street, Chicago.

## FILMS (16 mm.)

DeVry Corporation, 131 W. 42d Street, New York.

Eastman Teaching Films, Inc., 343 State Street, Rochester,  
New York.

Pathé Exchange, Inc., 35 West 45th Street, New York.

Fox Film Corporation, 460 West 54th Street, New York.

## FILMS (35 mm.)

DeVry Corporation, 131 W. 42d Street, New York.



# INDEX

A number in *italic type* refers to the illustration or to both the illustration and the text of the page.

- Abilities, inherited, 42, 46
- Accountancy, 150
- Accountant, 150
  - public, 151, 269
- Accounting, 145, 152
- Acting, 10, 11, 275. See *Drama*
- Actuarial department, 152
- Administration level, 36. See *Science level*
- Advertising, 123, 124, 134-138
- Advertising designer, 280
- Ages of Man, 193
- Agricultural school, 7, 104, 109, 110, 112
- Agricultural specialist, 110
  - advantages, 111
  - classification of work, 111
  - qualifications, 112
- Agriculture, 12, 13, 15, 40, 74, 75-96
  - advantages, 112-113
  - definition, 17
  - Department of, 16, 110, 333
  - training for, 112
  - workers in, 101-113
- Air brakes, 163
- Air Corps Training School, 8, 19, 20, 135
- Airplane mechanics, 19, 20
- Air transportation, 210, 214, 218
- Alfalfa, 77
- Angora goat, 87
- Animal hospital, 91, 92
- Animal husbandry, 76, 84-95
  - cattle, 84
  - fish, 92, 93, 94, 95
  - fur farming, 90, 91
  - horses, 87
  - pet animals, 92
  - poultry, 88, 89
  - sheep and goats, 87
  - single-crop farms, 107
  - swine, 87, 88
- Apple orchardist, 108
- Apprentice, 185, 198
- Apprenticeship, 37, 38, 185
- Archæologist, 6
- Architect, 194, 196, 200, 202, 206, 269, 271
- Architecture, 275
  - American, 201, 202
- Art professions, 270-272
  - training levels of, 278
- Artisan, 277, 280
- Artist, 137, 274, 277-282
- Assembly lectures, 61
- Assistant pastor, 291
- Auditor, 151
- Aviation, 5, 19, 20, 218
- Bacon hogs, 87
- Baker, 243, 256
- Banker, 36, 37
- Barley, 78
- Barter, 118, 119
- Bates, Katharine Lee (quotation), 74, 116
- Batik class, 7
- Bee keeping, 107
- Beef cattle, 84



- Berries, 83  
*Better Homes in America*, 231  
 Bishop, 290  
 Blacksmith, 183, 190  
 Blake, William (quotation), 117  
 Boarding house  
   management of, 261, 262  
   purpose of, 260  
 Boiler maker, 183  
 Boll weevil, 110  
 Bond salesman, 132  
 Bookkeeper, 149, 151  
 Bookkeeping, 15, 35, 145, 149, 150  
 Bricklaying, 45, 196  
 Broker, 121, 124  
 Bronze worker, 167, 181  
 Budget plan, 126  
 Building, 164, 166, 168, 192, 193-206  
 Building stone, 169  
 Building trades, 196  
   workers in, 197, 198, 200  
 Burbank, Luther, 100  
 Bureau of the Census, 9, 12, 32, 270  
 Bureau of Chemistry, 16  
 Bureau of Mines, 175, 176  
 Bureau of Standards, 6  
 Bus boy, 257, 258  
 Business (commerce), 12, 13, 40, 75, 76  
   birth of, 117  
   definition, 17, 121  
   executives, 36, 145, 148, 154-156  
   office, 124, 141, 143-154  
   specialization, 121  
 Butcher, 256  
 Butler, 242  
 Buyer, 42, 126, 128, 135  
   advantages, 129  
   qualifications, 128-129  
 Buying, 125  
   and selling, 120, 121  
   importance of, 125, 126  
   range, 126-127  
   related occupations, 127-128  
 Cabinet (of President), 314  
 Camera man, 10  
 Candy maker, 244  
 Canning industry, 111  
 Canvasser, 130  
 Career, 45, 278  
 Carnegie, Andrew, 162  
 Carnegie Institute of Technology, 38  
 Carpenter, 104  
 Carpentry, 35, 196  
 Cary, Alice (quotation), 75  
 Caterer, 243  
 Caterpillar ditcher, 105  
 Cattle, 84, 85, 86  
   ranch, 84, 86  
   tick, 110  
 Caveman, 3, 4, 5  
 Caxton, William, 63  
 Centers of commerce, 116  
 Cereals, 78  
 Chamber maid, 255  
 Chain store, 123  
*Chapter Information*, 21  
*Character of a Good Parson*, 290  
 Charge account, 124  
 Chef, 213, 243, 256, 257, 258, 260  
 Chemical change, 178  
 Chemical engineer, 175, 272  
 Chemist, 16, 43, 183, 217  
 Chicken farm, 89  
 Chicken, types of, 88  
 China, making of, 33, 34, 180, 270  
 Church workers. See *Religious workers*  
 Circuit Courts of Appeal, 316  
 Civil engineer, 205, 272  
 Civil engineering, 104  
 Clay, 169, 171  
   products, 180  
   tablets of Babylon, 119

- Clergyman. See *Pastor*  
 Clerical work, 171  
 Clerk, 128  
   entry, 149  
   filing, 146-147  
   invoice, 150  
   junior, 145  
   receiving, 128  
   shipping, 128  
   stock-room, 128  
 Clinic, 39, 296  
*Cloister and the Hearth, The*, 251  
 Clover, 77  
 Coal, 160, 169, 170  
 Codfish drying, 93  
 Cold storage, 94  
 College president, 302, 305  
 Commerce. See *Business*  
 Commerce, Department of, 333  
 Commercial artist, 137, 281, 282  
 Common law, 321  
 Communication, 106, 177, 194,  
   195, 207, 208, 209  
 Composer (of music), 271  
 Comptroller, 151  
 Conductor, 210  
 Conference groups, 61  
 Congress, 316, 317  
 Construction engineer, 200, 203,  
   204, 205, 206, 217, 272  
 Contest  
   corn-judging, 55  
   stock-judging, 86  
 Continuation school, 45  
 Contractor, 194, 197, 206  
 Cook, 242, 256, 259  
 Copper, 169  
 Corn, 78  
   growers, 108  
 Corporation law, 321  
 Cotton, 83  
 Counter men, 257  
 County Court House, 320  
 Courts, 316  
 Creative occupations, 182, 273,  
   274, 278, 280  
 Credit, 124, 145  
 Credit investigator, 154  
 Credit specialist, 154  
 Crime detection, 11  
 Criminal law, 321  
 Crops, 77-80, 83  
 Cultivation (of land), 15, 108  
 Dairy farming, 84, 85, 106, 107,  
   108  
 Damrosch, Walter, 14  
 Dancing, 275, 276  
 Deaconess, 291  
 Dean (school), 304  
 Decorative arts, 276  
 Decorative stone, 169  
 Democratic party, 317  
 Dental assistant, 298  
 Dentist, 298  
 Dentistry, 298  
 Department head (school), 304  
 Departments of the national  
   government, 313, 332, 333  
 Department store, 122, 123  
 Dermatologist, 294  
*Deserted Village, The*, 290  
 Designer, 182, 183, 184  
 Die sinker, 183  
 Dietitian, 239  
 Director  
   of moving pictures, 10  
   of religious education, 291  
 Dishwasher, 256  
 Dispatcher, 210  
 District Court, 316  
 Divorce law, 321  
 Doctor, 37, 217, 293. See *Phy-  
   sician*  
 Dog kennels, 92  
 Donkey, 87  
 Draft horse, 87  
 Draftsman, 183, 198, 206

- Drainage, 104, 105  
 Drama, 283. See *Acting*  
 Drawing, 182-183  
 Dressmaker, 243  
 Dryden, 290  
 Ducks, 88, 90  
 Education, 37, 42, 134, 238, 239, 300-305  
 Electives, table of, 57, 71  
 Electrical engineer, 200, 202, 217  
 Electrician, 8, 183, 184, 208  
 Electricity (on the farm), 105-106  
 Eliot, Charles W., 302  
 Ellis Island, 291, 294  
 Enamel decorator, 33  
 Engineer, kinds of, 272  
 Engineering, 5, 272  
 Engraver, 64, 136  
 Entry clerk, 149  
 Environment, 42, 44  
 Etching, 281  
 Executive departments (government), 313, 314, 332, 333  
 Executive positions, 29, 36, 148, 154-156, 314, 321  
 Expense, overhead, 124, 149  
 Extensive farming, 80  
 Extraction (of minerals), 166  
 Factory, 5, 10, 31, 164. See *Manufacturing*  
 Family home making, 225-244  
 Farm, 101  
     engineering on, 104  
     dairy, 84, 85, 106, 107, 108  
     fur, 90, 108  
     machines, 15, 78, 102-106  
     management, 108  
     ostrich, 89  
     prune, 80  
 Farmer, 101, 125  
     types, 102  
 Farming, 12, 104, 108. See *Agriculture*  
 Federal government, 313-319, 332, 333  
 Fiber and medicinal crops, 83  
 Field agents, 130  
     opportunities, 131  
     work of, 131  
 Fields, five vocational, 12, 17, 18, 40, 42, 56, 62, 155, 270  
*Field Studies*, 25  
 Field trips, 61  
 Filing, 141, 145  
     clerk, 146-147  
 Finance, 145  
 Fine arts, 271, 275-283  
 Firemen, 49, 211, 311  
 Fish, 92  
     cold storage of, 94  
     hatcheries, 95  
     kinds, 95  
     products, 95  
 Fisher, Dorothy Canfield, 268  
 Fishing, 93, 94, 106 (footnote)  
 Fish piers, 93  
 Flagg, James Montgomery, 281, 282  
 Florist, 79, 80  
 Flowers, 79, 80  
 Food, 226, 227, 228, 239, 257  
     inspection, 110, 111  
     specialist, 243  
 Forage crops, 77  
 Ford, Henry, 187  
 Foreign sales representative, 131  
 Foreign trade, 11  
 Foreman, 35, 103, 174, 211  
 Forest, 81, 83, 84  
     fires, 82  
 Forester, 81, 97, 106 (footnote)  
 Forestry, 81, 82, 83, 84  
 Forge worker, 183, 190, 274  
 Fox, 90, 108  
     blue, 90  
     silver, 92, 108

- Freesia, 79  
 Fruit, 83  
 Fuels, 176  
 Fur farming, 90, 108
- Gardener, 242, 243, 244  
 Garment worker, 44, 185  
 Gases, natural, 169  
 Gasoline tractor, 103  
 Gibson, Charles Dana, 281  
 Geese, 88, 90  
 General contractor, 205  
 General farmer, 102  
 Geology, 174  
 Goats, 87  
 Goethals, George W., 199  
 Gold, 169  
 Golden seal, 83  
 Goldsmith (quotation), 287, 290  
 Gorgas, William C., 295  
 Governess, 243  
 Government  
     science of, 309-313  
     service, 313-319, 332, 333  
     workers, 110, 310  
 Grains, 78  
 Granite, 169, 171  
 Grapes, 83  
 Greenhouse, 80  
 Guest, Edgar, 233  
*Guidepost, My*, 21, 22  
 Guinea-fowl, 88, 90
- Habits, 230  
 Hay, 77  
 Head waiter, 257, 258  
 Health officer, 296  
*Heap o' Livin', A*, 233  
 Heat, 214, 217, 220  
 Heating engineer, 200, 202  
 Helium, 175  
 Helper, 198, 256  
 Hemp, 83
- Home, 224, 225, 228  
     visitor, 291  
 Home economics, 241  
 Home making, 12, 13, 40, 75, 76, 126  
     boys and, 230-233  
     classification, 226  
     definition, 17  
     education and, 238, 239  
     family, 225-244  
     girls and, 234-236  
     institutional, 227, 248-264  
     occupations allied to, 243  
     training for, 238-244  
 Hoover, Herbert, 176, 177  
 Horses, 87  
 Horse ranch, 87  
 Horticulture, school of, 7  
 Hospital, 14  
     for animals, 91, 92  
 Hostess, hotel, 260  
 Hotel, 248-260  
     as a home, 252  
     history of, 248  
     hostess, 260  
     management, 253, 257  
     workers, 255-260  
 Hothouse, 80  
 Household management, 241  
 Housekeeper, 242, 255  
 House of Representatives, 316  
 Housewife, 236, 238  
 Hughes, Charles Evans, 308  
 Husbandry  
     animal, 76, 84-95  
     plant, 76-84  
 Hydraulic washing (of metals), 169, 170  
 Hygiene, home, 241  
 Hygienist, oral, 299
- "If" for Girls, An*, 235  
 Illustrator, 136, 281, 282  
 Industrial arts classes, 39

- Industrial Revolution, 164  
 Industry, 12, 13, 40, 75, 76, 84, 161  
   building, 193-206  
   definition, 17  
   development of, 161-166  
   manufacturing, 176-186  
   mining, 166-176  
   public utilities, 206-219  
 Inherited abilities, 42, 46  
 Inspectors (women), 50  
 Insect pests, 108  
 Installment plan, 124  
 Institutional home making, 248-264  
 Insurance agent, 132  
 Insurance law, 321  
 Intensive farming, 79, 83  
*Interesting Readings*, 21  
 Interior decorator, 194, 206, 241, 243  
 Interior, Department of the, 175, 333  
 Intern, 293  
 International law, 321  
 Invention, 35, 162, 164, 178  
 Inventor, 6  
 Invoice clerk, 150  
 Iron, 169, 195  
 Irrigation, 104  
  
 Japanese beetle, 110  
 Jewelry shop, 126  
 Jiggering machine, 34  
 Job (definition), 11. See *Occupation and Vocation*  
 Jobber, 121, 124  
 Jones, George H., 28, 29  
 Journalism, 5, 42  
 Journeyman, 200  
 Judge, 321  
 Judicial departments (government), 313, 316  
 Junior clerk, 145  
 Justice, Department of, 332  
  
 Keats (quotation), 269  
 Knights of Columbus, 292  
  
 Labor, Department of, 333  
 Laboratory worker, 183  
 Laborer, 171  
 Landscape gardener, 242, 244  
 Lard hogs, 87  
 Laundry workers, 243, 255  
 Law, 5, 270, 309, 319-322  
   importance of, 320-321  
   of supply and demand, 18  
   opportunities in, 322  
 Law-making, 317  
 Laws of life, 289  
 Lawyer, 29, 37, 217, 320-322  
   kinds of work, 322  
   qualifications, 322  
 Lead, 169  
 Leaf crops, 79  
 Learned professions, 270  
 Legislative departments (government), 313, 316, 317  
 Legislator, 317, 321  
 Library, 66  
 Life work, 11. See *Vocations*  
 Light, 214, 217, 220  
 Limestone, 169  
 Lindbergh, 218  
 Linen-room attendant, 255  
 Liquid minerals, 169  
 Literature, 65, 275, 282  
 Little-skilled clerk, 144  
 Little-skill level, 30, 31, 37, 58, 125, 144, 156, 172, 194, 197, 240, 254, 256, 261, 314  
 Locomotive engineer, 210, 213, 217, 273  
 Longfellow (quotation), 3, 143, 161, 225, 248, 251  
 Lowell (quotation), 28, 52  
 Lumbering, 81, 82, 84, 106 (foot-note)  
 Lydians, 120

- MacDougall, Alice Foote, 133
- Machine  
   Age, 164  
   farm, 15, 78, 102, 103, 104  
   jiggering, 34  
   shop, 181
- Machinist, 8, 20, 59, 60, 183, 184, 217
- Magazines  
   general, 66  
   vocational, 65
- Mail-order houses, 136
- Maitre d'hôtel, 257. *See Head waiter*
- Male nurse, 296
- Management (business), 154  
   qualifications for, 156
- Manhattan Island, 118, 192
- Manufacturing, 4, 31, 32, 33, 60, 160, 161, 164, 167, 176-186
- Marble, 169, 195
- Marine engineer, 273
- Market gardening, 79
- Mason, 104
- Meat-packing industry, 111
- Mechanic, 104, 172, 200
- Mechanical drafting, 182-183
- Mechanical engineer, 36, 175, 272
- Mechanical engineering, 104
- Mechanical trades, 182-185
- Mechanics (airplane), 19
- Medical director, 296
- Medical inspector, 294, 296
- Medicinal crops, 83
- Medicine, 270
- Medium of exchange, 119
- Messenger, 144
- Metallurgical engineer, 175, 272
- Metallurgy, 166, 169, 176
- Milk goat, 87
- Milliner, 243
- Mineralogy, 174
- Mineral oils, 169
- Minerals, 169
- Mineral technology, 176
- Mineral waters, 169
- Mine superintendent, 166, 174
- Mining, 160, 161, 164, 166, 167, 169-176  
   hydraulic, 170
- Mining engineer, 166, 174, 272
- Minister. *See Pastor*
- Mink, 90, 92, 108
- Moby Dick*, 251
- Modeling, 33, 279
- Molder, 183
- Money, 120
- Mont Cenis tunnel, 162
- Motorman, 210
- Moving pictures, 60, 62
- Muir, John, 37
- Mule, 87
- Multiple drilling, 178
- Music, 275, 283
- Muskrat, 90, 108
- Mutton, 87
- Natural gases, 169
- Navigator, 210
- Navy, Department of the, 332
- Neurologist, 294
- Newsboys, 72
- Niagara Falls Power Company, 220
- Novelty (in a job), 213
- Nun, 291
- Nurse, 243, 263  
   male, 296  
   practical, 297  
   public-health, 296, 297  
   trained, 296
- Nursing, 14, 36, 227
- Oats, 78
- Observation, 58, 59, 62  
   trips, 60
- Occupations  
   definition, 11



- Occupations — *Continued*  
 number in the United States, 9  
 open to women, 9  
 spectacular, 11  
 Office, 124, 141, 143-154  
 boy, 144  
 manager, 175  
 work, 143, 144, 145  
 workers, 141, 143, 217  
 Oil field, 172  
 Opportunities for advancement,  
 35, 38  
 Oral hygienist, 299  
 Orchard fruit, 83  
 Orchardist, 108  
 Orderly, 263  
 Ore, 195  
 docks, 173  
 Orthopedic clinic, 39  
 Ostrich farm, 89  
 Otter, 92  
 Overhead expenses, 124, 149  
 Ownership (business), 155, 156
- Packing pickles, 72  
 Painter (artist), 281  
 Painting, 275  
 Panama Canal, 199  
 Paper manufacturing, 67, 68,  
 82  
 Parlor maid, 255  
 Party boss, 319  
 Party politics, 310  
 Pasteurization, 85  
 Pastor, 288, 289, 290, 291  
 assistant, 291  
 Patent law, 321  
 Pattern maker, 184  
 Peat, 169  
 Pediatrician, 294  
 Personal professions, 287-305  
 Pet animals, 92  
 Petroleum, 169, 176  
 Pharmacist, 299  
 Pharmacy, 298 (footnote)  
 Phillips, Coles, 281  
 Photo-engraver, 64  
 Photographer, 135, 136, 280  
 Photoplay, 10  
 Physical change, 178  
 Physician, 36, 288, 289, 292-294.  
 See *Doctor*  
 Physicist, 6  
 Pilot, 210, 213  
 Pipe-fitter, 183  
 Plant diseases, 108  
 Plant husbandry, 76-84  
 cereals or grains, 78  
 fiber and medicinal crops, 83  
 flowers, 79, 80  
 forage crops, 77  
 fruit, 80, 83  
 single-crop farms, 107  
 vegetables, 78, 79  
 wood and forest, 81, 82, 83, 84  
 Plowing, 102, 103  
 Pod and vine crops, 79  
 Political (definition), 310  
 Political professions, 309-322  
 Politician, 310  
 Polity (definition), 310  
 Porter (janitor), 144  
 Porter (railroad), 213  
 Post Office Department, 332  
 Potato beetle, 110  
 Potter, 33, 34, 280  
 Poultry, 88  
 raising, 107  
 Power, 214, 217, 220  
 Practical arts, 271, 272-275  
 Practical nurse, 297  
 President  
 Cabinet of, 314  
 college, 302, 305  
 United States, 314  
 Principal (school), 303-304  
 Printing, 63, 64  
 Printing presses, 63, 64

- Prior (quotation), 101  
 Prison guard, 263  
 Private secretary, 29, 148  
 Production manager, 183  
 Professional  
   expert, 36  
   level, 36 (see *Science level*)  
   player, 41  
 Professions, 12, 13, 40, 75, 76  
   art, 269-283  
   definition, 17, 269  
   learned, 270  
   personal, 287-305  
   political, 309-322  
 Prune farm, 80  
 Psychiatrist, 294  
 Psychology, 134  
 Public accountant, 151, 269  
 Public-health nurse, 296, 297  
 Public-health service, 296, 297  
 Public institutions, 262-264  
 Public library, 66  
 Public servants, 310, 311, 312, 318  
 Public utilities, 164, 166, 168, 206-219  
 Purchasing agent, 128, 129. See *Buyer*  
 Purser, 210  
  
 Rabbits, 90  
 Radio, 5  
 Railroading, 5, 211, 212  
 Raised-gold decorating, 34  
 Reading of literature, 65, 66  
 Real-estate law, 321  
 Real-estate salesman, 132  
 Receiving clerk, 127, 128  
 Receiving department, 127  
 Recovery (of minerals), 166  
 Red Cross, 239, 292, 297  
 Refrigeration, effect of, on farming, 83  
 Religious workers, 289-292  
 Republican party, 317  
 Restaurant keeper, 18  
 Retail organizations, 123  
 Road building, 104  
 Room inspector, 255  
 Roosevelt, Mrs. Theodore, 237  
 Root crops, 79  
 Runners (for errands), 256  
 Rye, 78  
  
 Saint-Gaudens, Augustus, 279  
 Salesman, 129, 130, 132, 134  
   qualifications, 134  
 Salt, 169  
 Salvation Army, 291, 292  
 Sand, 169, 171  
 Sandstone, 169  
 Sanitary engineer, 202, 272  
 Sanitary engineering, 104  
 School, 37, 52  
 School administrator, 300, 303-305  
   requirements for, 305  
 School courses, 12  
 School of business administration, 152  
 School physician, 296  
 Science level, 30, 36, 37, 38, 40, 109, 125, 127, 172, 174, 186, 200-206, 238, 240, 241, 256, 259, 269, 273, 310, 314, 317, 323, 324  
   professional-school approach, 38  
   skilled-trade approach, 40  
 Scientific farming, 15  
 Scrapbook, 21  
*Scrapbook Suggestions*, 21  
 Sculptor, 279, 280  
 Sculpture, 275, 279, 280, 283  
 Seal industry, 98  
 Seamstress, 255  
 Secretaries (government), 314  
 Secretary, 146, 148  
 Self-help, 324

- Self-made man, 44  
 Selling, 120, 121, 122, 123  
     advantages of, 132  
     business of, 129  
     science of, 134  
 Semi-skilled operative, 32  
 Senate, 316  
 Senator, 316, 317  
 Servants, 241  
     reduction in number of, 242  
 Service, 232, 233, 264, 287, 288, 289  
 Sheep and goats, 87  
 Sheep-shearing, 88  
 Sheet-metal spinning, 179  
 Sheet-metal worker, 183  
 Shetland ponies, 87  
 Shift boss, 175  
 Ship captain, 210, 213, 217  
 Shipping clerk, 128  
 Shipping room, 127  
 Shoemaking, 10, 279  
 Shoe repairing, 26  
 Sikorsky Amphibion, 218  
 Silver, 169  
 Silversmith, 280  
 Single-crop farmer, 102, 106, 107, 108, 109  
 Skilled level, 30, 32, 35, 37, 40, 44, 125, 127, 145, 172, 182, 194, 198, 240, 242, 255, 256, 261, 273, 280, 314, 317, 323  
 Skilled trades, 35, 185  
 Skunks, 90  
 Slate, 169  
 Smelting, 169  
 Social service, 264  
 Social worker, 291, 292  
 Soil fertilization, 15, 108  
 Southbridge Vocational School, 8, 55  
 Special court, 316  
 Specialist (physician), 294  
 Specialization (in breeding), 87  
 Special store, 123  
 Standard Oil Company, 29  
 State Capitol (California), 309  
 State, Department of, 332  
 Statistician, 152  
 Statistics, 145  
 Statler, Ellsworth, 250  
 Steam engineer, 200  
 Stenographer, 29, 146, 147, 148  
 Stenography, 35, 145  
 Stevenson, Robert Louis, 292, 325  
 Steward, 213, 242, 256  
 Stock and bond salesman, 132  
 Stock rooms, 127  
 Stock-room clerk, 128  
 Subway construction, 30  
 Success, factors of, 46  
 Sugar beets, 83  
 Sugar cane, 83  
 Sulphur, 169  
 Superintendent  
     of buildings, 243  
     of estate, 242  
     of institution, 264  
     of schools, 304  
 Supervisor (school), 304  
 Supreme Court, 316  
 Surgeon, 36, 295  
 Surgery, 296  
 Survey courses, 56  
 Surveyor, 210, 272  
 Swine, 87  
 T Wharf (Boston), 93  
 Table of Electives, 57, 71  
*Tales of a Wayside Inn*, 251  
 Tax law, 321  
 Teacher, 288, 289, 300, 301  
     of religion, 291  
     tasks of, 301  
     training of, 303  
 Teaching, 5, 300-305  
 Tea-room manager, 243  
 Technical engineer, 37

- Technically trained leaders, 36  
 Telephone exchange, 195, 207  
 Telephone industry, 207, 208  
 Television, 177  
 Textile industry, 165  
 Theology, 270  
*Thinker, The*, 275  
 Time savers, 210  
 Tire factory, 50  
 Tomatoes, 78  
 Towerman, 213  
 Tractor, gasoline, 103  
 Trade periodicals, 65, 209  
 Trades, 35, 182, 183, 196  
 Trained nurse, 296  
 Training levels (three), 18, 28-46,  
     78, 103, 236, 254, 270  
 Transportation, 83, 194, 210, 215,  
     216  
     effect on truck farms, 80  
 Trapping, 90  
 Traveling salesmen, 130. See  
     *Field agents*  
 Treasurer, 151  
 Treasury, Department of the, 332  
 Trees (growing of), 84  
 Truck growing, 79  
 Tunney, Gene, 232  
 Turkeys, 88  
 Turpentine orchard, 81  
 Tutor, 243  
 Typing, 145  
 Typist, 146  
  
 United States Assay Office, 119  
  
 Vacation employment, 58  
 Value of an education, 54  
 Vegetables, 79  
 Ventilating engineer, 200, 202  
 Vocational education, 8, 26, 45,  
     55, 56  
 Vocational fields (five), 12, 13, 17,  
     18, 40, 42, 56, 62, 155, 270  
 Vocational guidance, 206  
 Vocational information, 66, 348  
 Vocational leaders' talks, 61, 62  
 Vocational magazines, 65  
 Vocational opportunities, 45, 205,  
     209  
 Vocational school, 8, 55  
 Vocational success, 42  
 Vocational training levels, 28-46  
     table of, 40, 41  
 Vocation (definition), 11  
     financial returns, 18  
     for women, 7, 9, 50, 107, 182,  
     206, 261, 262, 296, 300  
  
 Waiter, 257, 258  
 Wall-paperer, 196  
 Wanamaker, John, 142  
 War, Department of, 332  
 Water supply, 104, 200  
 Watershed, 81  
 Wayside Inn, 251  
 Welder, 49  
 Westinghouse Air Brake Com-  
     pany, 163  
 Westinghouse, George, 161, 162,  
     163  
 Wheat, 78  
 Wheat farmer, 18  
 Wholesale salesman, 130  
 Wholesaler, 121, 124  
 Wills, Helen, 41  
 Wilson, Woodrow, 315  
 Wood, 195  
 Wood and forest, 83-84  
 Wool, 87  
 Woolen mill, 50  
  
 Young, Owen D., 153  
 Young Men's Christian Associa-  
     tion, 292  
  
 Zinc, 169  
     mill, 173























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